THE LITERATURE OF MEDICAL AND VETERINARY MYCOLOGY

In an attempt to measure the output of current literature on medical and veterinary mycology an effort is being made to list all publications in this field during the year 1957. Up to 1 September 1958 1,023 references had been compiled. These were distributed among 381 different publications (journals, 360; reports, 7; books and theses, 14). The percentage language distribution was: English, 50·5; French, 12·9; Spanish, 9·5; German, 8·7; Italian, 8·4; Portuguese, 2·5; Hungarian, 1·8; Russian, 1·6; Scandinavian, 1·1; Czech, 1·0; others 2·0.

At present approximately 600 abstracts (representing some 650 items) are published annually in this *Review*. In order to increase the cover of the literature a selection of papers will in future be noticed by title only.

456. Rooks (R.) & Shapiro (R. S.). **The value and limitations of mold surveys by the culture plate method.**—*J. Allergy*, **29**, 1, pp. 24–28, 4 fig., 1958.

Daily exposures of culture plates were made by the Dept of Hygiene and Preventive Medicine, College of Medicine, State University of Iowa, during Apr.–July. Each daily reading consisted of the free exposure of 2 culture plates for 12 min. each, volumetric sampling using electrostatic precipitation plus impingement, and additional samples by impingement alone, using the same instrument.

Electrostatic precipitation combined with impingement markedly increased the sampling efficiency, but because of the lack of uniformity of spores present in a given volume of air short-time volumetric air samples were of little value in determining the incidence of airborne spores.

The daily colony count by the standard plate technique did not reflect the true incidence of *Alternaria* and *Hormodendrum* (*Cladosporium*), the only fungi studied in this survey, but it did indicate their seasonal trends.

457. Loginov (V. P.). О случае остраго фузариотоксикоза Поросят. [Acute fusariotoxicosis in Piglets.]—Ветеринария [*Veterinariya*, Moscow], **35**, 1, pp. 68–69, 1958. [*V.B.*, **28**, p. 295.]

There was a major outbreak of fusariotoxicosis (*Fusarium sporotrichioides*) in piglets in the U.S.S.R. in July 1956. Investigation revealed that the condition occurred 3–5 days after they had been put on bran. Small brown mould spots were present on some of the bran particles. Ether extracts of the moulds, applied to closely shaven patches on the skin of rabbits, very rapidly produced necrosis. Intraperitoneal injection into white mice caused death in 6–7 hr.

The temperature of affected piglets rose to 41° C. and in severe cases death occurred in 2–3 days. The mucous membranes of the nose and throat were inflamed and there was marked swelling and reddening of the lymph nodes of the head and mandibles. The lungs were inflamed. Autopsy revealed severe inflammation of the intestine.

The condition cleared up rapidly when clean bran was provided.

458. Karpova-Benoua (Mme E. I.). Патогенность гриба **Myrothecium verrucaria (Alb. et Schw.) Ditmar** gas животных организмов. [The pathogenicity of the fungus *Myrothecium verrucaria* (Alb. et Schw.) Ditmar to the animal organism.] —*Trav. Soc. Nat., Moscow-Leningrad*, **42**, 6, pp. 855–866, 1 pl., 2 fig., 1957.

When oats grown in the damp season of 1953 were examined for saprophytic fungi at 'Znamya Lenina' in the Moscow district 59 spp. representing 32 genera were

isolated. In toxicity trials *Fusarium trichoides*, *F. tricinctum*, and *M. verrucaria* proved the most toxic. Cultures of the last-mentioned, mixed with the grain fed to white mice, caused acute gastroenteritis, while subcutaneous injection of 1 ml. of culture filtrate was lethal. Grain contaminated with this fungus caused intestinal disorders in cattle and sheep.

459. Fink (H.) & Hoppenhaus (K.-W.). **Beiträge zur biologischen Eiweisssynthese von höheren und niederen Pilzen und zur alimentären Lebernekrose der Ratte.** [The biological synthesis of protein in higher and lower fungi, and alimentary liver necrosis in the Rat.]—*ForschBer. Wirtschafts- u. Verkehrs-Min., Nordrhein-Westf.*, 389, 65 pp., 2 graphs, 1956. [Received 1958.]

In trials at the Institut für Gärungswissenschaft und Enzymchemie, University of Cologne, young albino rats were raised on a diet in which protein was provided, at equal levels, by mushrooms (*Psalliota campestris*) or *Boletus edulis*. The latter alone provided valuable protein, which was of high cystine content and comparable with that from animal sources. In further experiments protein was provided by *Torula* [*Candida*] *utilis* preparations. Their low value was revealed, as with the mushroom diet, by poor growth and liver necrosis.

460. Schönfeld (W.). **Aus der Frühzeit der Pilzerkrankungen des Menschen:** [From the early days of human mycoses:] **Jean Victor Audouin (1797–1839), Agostino Bassi (1773–1856), Franz Unger (1800–1870).**—*Dtsch. med. Wschr.*, **82**, 30, pp. 1235–1237, 1957.

Biographical and bibliographical information.

461. Ciferri (R.). **Manuale di micologia medica. Tomo I. Parte generale.** [Manual of medical mycology. Vol. I. General part.]—370 pp., 304 fig., Pavia, Casa Editrice Renzo Cortina, 1958. L. 4,000.

This well-produced volume covers in greater or lesser detail many aspects of fungi and mycoses, from history and nomenclature in the first chapter to bibliography (pp. 343–370) in the last. There are sections on the culture of fungi and the microscopical examination of infected tissues, on serology, and on fungi as parasites, saprophytes, and allergens. The longest chapters are one on the morphology and physiology of fungi (pp. 74–143) and one devoted to a review of the classification of fungi (with special reference to those pathogenic for man) in the form of a key. There is also a dichotomous key (pp. 319–326) to mycoses.

462. Ciferri (R.) & Redaelli (P.). **Bibliographia mycopathologia (1800–1940). I.**—408 pp., Florence, Sansari Antiquariato [Biblioteca bibliografia italica, 18], 1958. L. 30,000 the set.

During the 30 yr. of their collaboration in studies on medical mycology Prof. Ciferri and the late Prof. Redaelli amassed the bibliography of more than 14,500 references, which is now being published. The present volume covers authors A–K and lists 7,260 titles. Two further volumes are promised.

463. **Convegno sulle micosi.** [Conference on mycoses.]—*G. malatt. infett.*, **9**, 7, pp. 315–463, fig. and graphs, 1957.

This is a collection of 55 papers read at a meeting in Florence on 4 Feb. 1956 arranged by the Societa Italiana per lo Studio delle Malattie Infettive e Parassitarie. Some 45 of the papers deal with clinical, therapeutic, and mycological aspects of moniliasis in a wide sense and include a paper by G. Redaelli, 'Controllo sperimentale dell'azione patogena di alcuni ceppi di lievito isolati da mastiti micotiche nel bovino' [Experimental investigation of the pathogenic action of some strains of yeast isolated from mycotic bovine mastitis] (pp. 339–347). Other papers include

G. Corbelli, A. Mazzoni, & L. Allegri, 'Su altri due casi di istoplasmosi osservati; nella Clinica Medica di Bologna' [On two further cases of histoplasmosis observed at the Medical Clinic, Bologna] (pp. 347–357) and G. Zaoli, 'Un caso d'istoplasmosi oro-faringea' [A case of oropharangeal histoplasmosis] (pp. 357–360)].

464. Raubitschek (F.). **A critical survey of medical mycology in Israel 1946–1956.** —*Mycopathologia*, **9**, 2, pp. 176–182, 1958. [37 refs.]

This survey, from Hadassah University Hospital, Jerusalem, catalogues and briefly summarizes papers, many of which have been previously noted in the *Review*, under the following headings: dermatophytes, including clinical aspects of tinea capitis, tinea of glabrous skin and nails, and cultural work, yeast-like fungi, deep mycoses, mycetoma, and antimycotic antibiotics.

465. Campins (H.). **Sintestis de las investigaciones micologicas realizadas en Venezuela durante los anõs 1946–1956.** [Survey of mycological investigations made in Venezuela during the years 1946–1956.]—*Mycopathologia*, **9**, 2, pp. 152–175, 3 fig., 1958. [124 refs.]

This paper from the Médico Jefe de los Servicios de Dermatologia y Laboratorio, Hospital Central, Barquisimeto, Venezuela, deals mainly with medical mycology, especially systemic mycoses [cf. **3**, 185, 186].

466. Csillag (A[nna]). **The occurrence of systemic mycoses in Hungary.**—*Acta microbiol. Acad. Sci. hung.*, **5**, 1, pp. 75–87, 7 fig., 1958.

Among the 600 cases of presumed systemic mycosis investigated during the past 2 yr. at the State Institute of Hygiene, Budapest, the clinical diagnosis was confirmed by laboratory methods in 41. The fungi identified with absolute or reasonable certainty were *Coccidioides immitis* (1 case), *Histoplasma capsulatum* (5), *Nocardia asteroides* (6), *Blastomyces dermatitidis* (1), *Cryptococcus neoformans* (8), *Aspergillus fumigatus* (4), and *Candida albicans* (17).

467. Vogel (R. A.) & Padula (J. F.). **Indirect staining reaction with fluorescent antibody for detection of antibodies to pathogenic fungi.**—*Proc. Soc. exp. Biol. (N.Y.)*, **98**, 1, pp. 135–149, 6 fig., 1958.

Antibodies in sera from patients at the Veterans Administration Hospital, Atlanta, Georgia, with systemic mycoses due to *Histoplasma capsulatum*, *Candida albicans*, *Blastomyces dermatitidis*, and *Cryptococcus neoformans* were demonstrated by the indirect method of staining with fluorescin-labelled rabbit anti-human gamma globulin, which resulted in characteristic fluorescing reactions. The fluorescent technique was the only successful one of 4 serological methods tested for cryptococcosis.

468. Weed (L. A.). **Technics for the isolation of fungi from tissues obtained at operation and necropsy.**—*Amer. J. clin. Path.*, **29**, 5, pp. 496–502, 4 fig., 1958. [Summary in Interlingua.]

The important points on which guidance is offered from the Mayo Clinic, Rochester, Minnesota, are the proper selection of specimens, preparation of the tissue for culture, histological examination, the selection of media, and massive inoculation.

469. Canitrot-Araujo (M.). **Aportación al estudio de la alergia cutánea a diversos hongos patógenos.** [A contribution to the study of the skin sensitivity to several pathogenic fungi.]—*An. Fac. Med. Santiago de Compostela (Spain)*, **1**, 4, pp. 453–464, 1957.

At Santiago de Compostela several groups of more than 100 children were investi-

gated. According to the author 10% reacted to coccidioidin, 9·8% to *Histoplasma capsulatum*, 9·4% to *Cryptococcus neoformans*, 8·5% to *Candida albicans*, 2·8% to *Geotrichum pulmonalis*, and 0% to *Blastomyces dermatitidis*. Unstandardized filtrates of cultures were used in the skin tests.

470. Sierra (G.) & Veringa (H. A.). **The effect of oxy-chlororaphin on the growth in vitro of Streptomyces spp. and some pathogenic fungi.**—*Nature, Lond.*, **182**, 4630, p. 265, 1958.

At the Laboratory of Microbiology, Amsterdam, oxy-chlororaphin, obtained from *Pseudomonas aeruginosa* [see below], completely inhibited the growth of *Streptomyces* sp. 441, *Trichophyton mentagrophytes*, *Epidermophyton floccosum*, *Candida albicans*, *Microsporum audouinii*, and *Blastomyces dermatitidis* on Sabouraud's glucose agar at 12·5, 25, 50, 25, and 25 p.p.m., respectively. The rate of oxygen uptake by a washed suspension of *C. albicans* in Sabouraud's glucose was unaffected by a conc. of oxy-chlororaphin sufficient to prevent growth, so that its mode of action must differ from that of an antiseptic producing general protoplasmic poisoning. No ill effects were observed in mice injected intraperitoneally with 10 mg. of the substance suspended in olive oil.

471. Stieb (E. W.) & Walker (G. C.). **A study of the antagonism exhibited by Pseudomonas aeruginosa and Pseudomonas fluorescens towards certain fungus pathogens. I Preliminary screening. Part II.**—Reprinted from *Canad. pharm. J.*, Sci. Sect., March & April, 4, 6 pp., 1957. [French summaries.]

At the Faculty of Pharmacy, University of Toronto, pyocyanine, hemipyocyanine, and fatty acid fractions obtained by direct extraction from culture filtrates of *P. aeruginosa* and *P. fluorescens*, grown on a number of media, inhibited the growth of a number of dermatophytes and systemic fungal pathogens [see above].

472. Negroni (P.). **Nuevos agentes en el tratamiento de las micosis.** [New agents for the treatment of the mycoses.]—*Rev. Asoc. méd. argent.*, **71**, 9, pp. 298–304, 1957.

A brief general review.

473. Rieth (H.) & Schoderer (K.). **Die Mykosen : Entstehung, Erkennung und Behandlung von Pilzerkrankungen.** [Mycoses: origin, recognition and treatment of fungal diseases.]—*Folia icthyol.*, **6**, 34 pp., 12 fig., [?] 1958.

This résumé of medical mycology for the general practitioner gives a short clinical account of the individual diseases, their diagnosis, and their treatment.

474. Scott-Young (Margery). **Actinomycosis : a survey and case report.**—*Med. J. Aust.*, **45** (i), 15, pp. 491–493, 1958.

A submandibular swelling caused by *Actinomyces israeli-krusei* [*A. israelii*] developed in a 36-yr.-old woman following extraction of a left lower molar tooth. The initial treatment comprised potassium iodide, sulphadiazine, and penicillin, but the last-named was not tolerated and a cure was ultimately effected by a course of X-ray therapy (total dose 1,500 r.).

475. Pilheu (F. R.) & Colillas (R.). **Actinomicosis de parótida a forma tumoral.** [Actinomicotic tumour of the parotid gland.]—*Pren. méd. argent.*, **44**, 7, pp. 472–474, 1957.

A tumour-like mass of the parotid gland was excised and studied. It was a typical actinomycotic mycetoma and the authors think that the actinomycete [*Actinomyces israelii*] infected the gland via the canal.

476. Hiddlestone (H. J. H.). **Nocardiosis in New Zealand. Report of a case.**—*N.Z.J. Med.*, **56**, 314, pp. 399–404, 2 fig., 1958.

At the post-mortem on a 47-yr.-old male patient at Nelson Hospital *Nocardia asteroides* was cultured from pus from extra-pleural and occipital abscesses, the spleen, and the mitral valve. The fungus was sensitive to tetracycline and (to a lesser extent) chloramphenicol and was also inhibited by sulphonamides.

477. a. Bates (M.) & Cruikshank (G.). **Thoracic actinomycosis.**—*Thorax*, **12**, 2, pp. 99–124, 32 fig., 1957. [*B.H.*, **32**, p. 956.]

b. Wingo (C. F.) & Williams (R. O.). **Pulmonary actinomycosis diagnosed by lung biopsy.**—*Amer. Rev. Tuberc.*, **76**, 4, pp. 660–668, 3 fig., 1957. [28 refs.]

c. Hall (E. R.) & Cooley (D. A.). **Pulmonary nocardiosis : report of a case complicated by tuberculosis.**—*Dis. Chest*, **31**, 4, pp. 453–456, 4 fig., 1957.

A *Nocardia asteroides* infection at Houston, Texas.

478. Mariat (F.). **Physiologie des Actinomycetes aerobies pathogènes. Recherches sur l'activité proteolytique et sur la nutrition azotée et carbonée de Nocardia asteroides, N. brasiliensis, Streptomyces madurae, S. pelletieri et S. somaliensis.** [Physiology of aerobic pathogenic actinomycetes. Researches on proteolytic activity and on the nitrogen and carbon nutrition of *Nocardia asteroides, N. brasiliensis, Streptomyces madurae, S. pelletieri*, and *S. somaliensis*.]—*Mycopathologia*, **9**, 2, pp. 111–149, 1958.

Among the results of this comprehensive study the following points may be noted. All species made satisfactory growth when supplied with glucose +casein hydrolysate or asparagine. *N. asteroides* showed no proteolytic activity. *S. pelletieri* and *S. somaliensis* hydrolysed gelatin, serum albumin, and egg albumin while *N. brasiliensis* and *N. madurae* usually only hydrolysed gelatin. *N. asteroides* and *N. brasiliensis* (but not *S. somaliensis*) utilized urea, ammonium sulphate, potassium nitrate, and paraffin while *S. pelletieri* (and usually *S. madurae*) only utilized urea.

479. Kuhl (I. W.) & Whigham (W.). **An improved culture medium for the growth of Streptomyces (Nocardia) madurae.**—*J. invest. Derm.*, **30**, 6, p. 267, 1958.

From Baylor Hospital, Dallas, Texas, the authors report a typical growth of *S. madurae* on proteose ≠ agar with 3% dextrose and 10% ascitic fluid.

480. **International Code of Nomenclature of Bacteria and Viruses.** Edited by The Editorial Board of the International Committee on Bacteriological Nomenclature.—xxii+186 pp., Ames, Iowa, Iowa State College Press, June 1958. $3.50.

Attention is drawn to this Code which governs the nomenclature of actinomycetes.

481. Pier (A. C.), Gray (D. M.), & Fossatti (M. J.). **Nocardia infection of the bovine mammary gland. A preliminary report.**—*J. Amer. vet. med. Ass.*, **131**, 7, pp. 327–328, 1957.

Nocardia sp. was isolated at the School of Veterinary Medicine, University of California, from the milk of cows. Brief clinical signs of the condition and details of the fungus are given.

482. Austwick (P. K. C.). **Cutaneous streptothricosis, mycotic dermatitis, and strawberry foot rot and the genus Dermatophilus van Saceghem.**—*Vet. Rev. & Annot.*, **4**, 1, pp. 33–48, 1958.

This paper begins with a critical review of the literature on the 3 diseases. It is concluded that *D. congolensis* van Saceghem is the valid name for the organism of

bovine 'streptothricosis' (syn. Senkobo disease, contagious impetigo) in Africa. The term 'streptothricosis', used by Snijders & Jansen [**2**, No. 2266], by Schulz [**2**, No. 2267], and by veterinary officers in their annual reports, owes its origin to a suggestion by Hutchins in 1919 that the disease was caused by a 'streptothrix'. Mycotic dermatitis in sheep is synonymous with 'lumpy wool', 'rain rot', and 'matted wool', and the earliest name for the causal organism is *Actinomyces dermatonomus* Bull, 1929. Thompson & Bisset [*V.B.*, **27**, No. 2372] recently classified Thompson's isolate from strawberry foot rot in sheep in a new genus as *Polysepta pedis*.

The similarity of *A. dermatonomus* and *D. congolensis* [**2**, No. 2266], together with Thompson and Bisset's conclusion that the former and *P. pedis* are congeneric, would seem to indicate that *Dermatophilus* and *Polysepta* are synonymous, the first name having priority. From the foregoing, confirmed by personal observations on clinical material and isolates (listed in an appendix), the author proceeds to a tentative reclassification, erecting a new family, the Dermatophilaceae, with 1 genus, *Dermatophilus*, comprising *D. congolensis*, causing 'streptothricosis' in cattle, horses, sheep, goats, and eland; *D. dermatonomus* [**3**, No. 306], agent of mycotic dermatitis in sheep; and *D. pedis* (Thompson & Bisset) Austwick comb. nov., causing strawberry foot rot in sheep.

If this nomenclature is accepted it will be necessary to safeguard the well-known clinical names of the diseases against the introduction of new terms based on the valid names of the causal organisms. The dermatitis described by Nisbet & Bannatyne [**2**, No. 1752], although a clear-cut entity, has not yet received a specific clinical name.

483. Plowright (W.). **Cutaneous streptothricosis of cattle in Nigeria. II. The aerobic actinomycete (Nocardia sp.) associated with the lesions.**—*J. comp. Path.*, **68**, 2, pp. 133–147, 1958. [46 refs. *V.B.*, **28**, p. 494.]

Continuing his studies [cf. **2**, No. 2004], cultural and biochemical studies of field material were made at the Veterinary Research Laboratory, Vom, N. Nigeria. It is suggested that the organism is a species of *Nocardia* and that the name of the disease should be 'nocardial dermatitis' or 'cutaneous nocardiosis' [but see above].

484. Philipson (M. N.). **Actinomycete disintegration of raw wool.**—*Nature, Lond.*, **180**, 4596, pp. 1205–1206, 1957.

The author records from Canterbury Agricultural College, Lincoln, New Zealand, the isolation from living fleece, fleece wool, and soil of a number of unspecified actinomycetes able to disintegrate raw wool fibres.

485. Barlow (A. J. E.) & Chattaway (F. W.). **The parasitism of the ringworm group of fungi.**—*Arch. Derm., Chicago*, **77**, pp. 399–405, 1957. [*B.H.*, **33**, p. 1045.]

After stressing the lack of progress in the therapy of ringworm infections the authors proceed to an analysis of the host-parasite relationship from 2 aspects: (*a*) the physical damage produced by the invading fungus in the soft and hard keratin; and (*b*) the reaction of the host to this invasion (inflammation, hypersensitivity, immunity). They conclude that a greater understanding of the behaviour of these fungi in the parasitic phase is essential.

486. Ettig (B.). **Untersuchungen zur Frage des Saprophytismus der Dermatophyten im Erdboden. I. Antagonisten hautpathogener Pilze aus natürlich belebten Böden.** [Studies on the question of the saprophytism of dermatophytes in the soil. I. Antagonists of skin-pathogenic fungi from naturally colonized soils.]—*Arch. Klin. exp. Derm.*, **207**, 1, pp. 24–33, 5 fig., 1958.

Of 50 soil bacteria tested at the Hautklinik of the Friedrich Schiller University,

Jena, Germany, 11 were more or less actively antagonistic in *in vitro* tests to *Trichophyton mentagrophytes*, *T. rubrum*, *Epidermophyton floccosum*, and *Microsporum gypseum*, the last-named being particularly sensitive. Among 50 actinomycetes, 21 were antagonistic, 8 exerting an extraordinarily powerful inhibitory action, while 8 others stimulated the growth of the pathogens.

487. Wolf (F. T.), Jones (E. A.), & Nathan (Helene A.). **Fluorescent pigment of Microsporum.**—*Nature, Lond.*, **182**, 4633, pp. 475–476, 1 graph, 1958.

The authors present further evidence [cf. **3**, No. 204] that the fluorescent pigment produced by *M. canis* is a pteridine.

488. Scherr (G. H.) & Korth (Z. N.). **The therapeutic effectiveness of a fungistatic powder for tinea pedis.**—Reprinted from the *Illinois med. J.*, **112**, 3, 3 pp., 1957.

A report with tabulated results is made from the Creighton University School of Medicine, Nebraska, on the treatment of children for tinea pedis [cause unspecified] in which the authors consider asterol [cf. **3**, No. 492] powder to show promise as a cure.

489. Benedek (T.). **Selective chemical epilation in the treatment of tinea capitis as contrasted with the diffuse X-ray epilation.**—*Mycopathologia*, **9**, 2, pp. 97–110, 1 fig., 1958.

Over 1,000 cases of tinea capitis (153 caused by *Microsporum audouinii* and *M. lanosum* [*M. canis*], the rest unspecified), dealt with since 1951 [see **2**, No. 602] by a method devised by the author, are here reported on from the Dept of Dermatology, Loyola University, Chicago. It is maintained that cures were due to the preparation penetrating the infected hair follicle and causing selective epilation, not to its fungicidal or fungistatic action.

490. Iranzo-Prieto (V.). **El tratamiento de las tiñas del cuero cabelludo en el medio rural.** [The treatment of tinea capitis in a rural area.]—*Medicamenta*, **27**, 306, pp. 315–317, 1957.

The author refers to his own experience on the use of thallium acetate for epilation in children weighing up to 30 kg. The contra-indications are important and arthralgias are recorded in 36% of the cases.

491. James (A. P. R.). **Iodochlorohydroxyquinoline (vioform) hydrocortisone cream and lotion in superficial fungus infections.**—*Antibiot. Med.*, **5**, 4, pp. 266–269, 1958.

A joint report from 5 hospitals at Toledo, Ohio, on the encouraging results of the above-mentioned treatment [cf. **1**, No. 1019 *et passim*] in some 200 cases, with brief particulars of 5.

492. Vanbreuseghem (R.) & Bruaux (P.). **Nouvel essai de traitement des teignes du cuir chevelu par l'astérol au Congo belge.** [New attempt at the treatment of tineas of the scalp with asterol in the Belgian Congo.]—*Ann. Soc. belge Méd. trop.*, **37**, 6, pp. 933–939, 1957. [Flemish, English, German, and Spanish summaries.]

Of 15 native children aged 13 months–10 yr. who were treated with asterol ointment or tincture [**2**, No. 1923] against *Sabouraudites* (*Microsporum*) [*Trichophyton*] *langeroni*, *S.* [*T.*] *rivalieri*, *T.* [*M.*] *ferrugineum*, and *T. soudanensis*, 10 were cured and 2 improved.

493. Shah (A. M.) & Jones (J. W.). **Synthesis and antifungal studies on new organic compounds.**—*J. Amer. pharm. Ass.*, Sci. Ed., **47**, 6, pp. 399–401, 1958.

At the College of Pharmacy, State University of Iowa, Iowa City, 12 new com-

pounds, comprising 6 derivatives of *o*-phenylenediamine-bis-dithiocarbamic acid and 6 of 4-chloro-*o*-phenylenediamine-bis-dithiocarbamic acid (1–5%) were tested by the agar plate, paper-disk technique for toxicity to *Microsporum gypseum*, *M. canis*, *Trichophyton rubrum*, and *T. mentagrophytes*, in comparison with undecylenic acid and ethanol. All proved more effective than undecylenic acid against all the fungi except the sodium salts of *o*-phenylenediamine-bis-dithiocarbamic acid, which was more active against *M. canis* and *T. rubrum*. Ethanol, used to dissolve the esters, exerted no antimycotic activity.

494. Wenk (P.) & Frey (J. R.). **Untersuchungen über die Wirkungsbedingungen chemischer Verbindungen auf T. mentagrophytes unter Verwendung infizierter Meerschweinchenhaare (Haartest).** [Studies on the conditions for activity of chemical compounds on *T. mentagrophytes*, using infected Guinea-pig hairs (hair test).]—*Arch. klin. exp. Derm.*, **207**, 1, pp. 1–23, 3 fig., 4 diag., 1958.

The application of the Hotchkiss stain to guinea-pig hairs infected by *Trichophyton mentagrophytes* [**3**, No. 209] revealed peripilar conidia, intrapilar and intracortical hyphae growing towards the roots, and intrapilar and intramedullary oidia with a more distal localization. When these elements were transferred to maltose-peptone agar, cultures arose principally from the peripilar conidia. To ascertain whether the intrapilar elements were also viable *in vitro*, the outer mantle was removed and the hairs cut into several fragments, which were then placed on the medium. The upper and middle portions, containing mostly oidia, invariably produced cultures, whereas the root fragments, harbouring the tips of the intrapilar hyphae, remained sterile.

The authors conclude that hair test-active compounds (i.e., those inhibiting culture development after 4 hr. contact) cannot cure the complaint. The most that can be expected from their action on the peripilar conidia is a reduction in the development of new foci in the same individual and in the spread of infection to others.

495. Avilés-Nugué (F.). **Coloración diferencial de ciertos hongos con paraldehido-fucsina.** [Differential stain of some fungi with aldehyde-fuchsin.]—*Rev. ecuat. Hig.*, **14**, 1, p. 53, 2 fig., 1957.

Gomori's method was used for tissue sections from cases of South American blastomycosis, coccidiodomycosis, and histoplasmosis, for epidermal scales infected with *Malassezia furfur*, and for smears from cultures of *Candida albicans*. The membrane of *Paracoccidioides brasiliensis* and of *Coccidioides immitis* was stained while that of the other species was not.

496. Enderlin (K.). **Vergleichende Untersuchungen zur Technik des Pilznachweises bei Haut- und Nagelmykosen. (Unter besonderer Berücksichtigung der Färbung mit Parker Tinte.)** [Comparative studies on the technique of fungus demonstration in skin and nail mycoses. (With special reference to staining with Parker ink.)]—*Dermatologica* (*Basel*), **116**, 4–5, 7 fig., 1958. [English and French summaries.]

In 60 out of 134 cases of dermato- and onychomycoses among employees of the Zürich public baths the KOH-Parker ink method [cf. **2**, No. 1150] was compared with 2 methods in current use (direct microscopic and cultural) for the demonstration of fungi. The new procedure proved distinctly superior.

497. Blank (F.). **Endothrix ringworm endemic in rural eastern Quebec.**—*Canad. J. publ. Hlth*, **49**, 4, pp. 157–159, 1958.

During 1951–56 *Trichophyton tonsurans* was isolated from the scalp in 10 Canadian and 11 immigrant children and from the body in 1 child and 1 adult, both Canadian.

T. sabouraudi and *T. sulphureum* each caused tinea capitis in 1 child and tinea corporis in 1 child and 1 adult, all Canadian, while *T. violaceum* caused tinea capitis in 2 Canadian and 9 immigrant children and tinea corporis in 1 Canadian child and 2 adult immigrants.

498. Alvarez de Lara y Garcia (R.). **Contribución al conocimiento de la flora dermatofítica, especialmente de la provincia de Madrid.** [A contribution to the determination of the dermatophytic flora, especially in the Province of Madrid.] —*Act. dermo-sifiliogr.* (*Madr.*), **48**, 4, pp. 239–247, 1957.

Of 101 cases of tinea capitis confirmed by culture 53 were caused by *Microsporum* spp. and 48 by *Trichophyton* spp., including 2 cases of favus (*T. schoenleinii*). Of the cases of microsporosis, 51 were caused by *M. canis*, and a contact with a dog or a cat was evident in most. In the other 2 cases the causal organisms were *M. gypseum* and *M. audouinii*, respectively. *T. violaceum* was cultured from 45 cases while *T. tonsurans* was identified once. Of 44 cases of tinea corporis 38 were due to *M. canis*, 3 to *T. violaceum*, and 3 to *T. mentagrophytes*. Two cases of inflammatory tinea by *T. mentagrophytes* are also recorded. Three cases of intertriginous tinea are attributed to *T. violaceum* and 1 to *T. mentagrophytes*; 2 cases of onychia are also attributed to the last-named species.

While the animal origin of the cases of microsporic tinea is evident more than one-half of the infections by *T. violaceum* could be related with endemic foci.

499. Vallejo (L. V.) & Rodriguez (E.). **Contribución al conocimiento de las tiñas en Tucumán.** [A contribution to the study of dermatomycosis in Tucuman.]—*Arch. argent. Derm.*, **7**, 1, pp. 55–60, 1957. [English, French, and German summaries.]

In Tucumán, Argentina, of 74 cases of tinea capitis the species involved was identified in 65 cases as: *Microsporum canis*, 48, *M. gypseum*, 1, *Trichophyton tonsurans*, 4, *T. plicatile*, 2, *T. flavum*, 2, *T. acuminatum* [*T. sabouraudi*], 1, *T. mentagrophytes*, 3, *T.* [*verrucosum* var.] *discoides*, 2, *T. violaceum*, 1, and *T. rubrum*, 1. The authors state that *T. verrucosum* var. *discoides* appears as an endothrix species.

500. Birt (A. R.). **An outbreak of tinea capitis and tinea corporis due to Microsporum lanosum.**—*Canad. med. Ass. J.*, **78**, 8, pp. 579–583, 1 fig., 4 diag., 1958. [French summary.]

During a 9-month period from July 1956, 79 patients from 36 homes at Winnipeg were found to be infected by *M. lanosum* [*M. canis*], which had been virtually absent from the district for many years. In the majority of cases the animal source of infection was very difficult to establish, and at least 40% of the spread is attributed to child-to-child contact.

501. Rieth (H.) & Schirren (C.). **Doppelinfektion durch Trichophyton rubrum und Trichophyton verrucosum.** [Double infection with *Trichophyton rubrum* and *T. verrucosum*.]—*Hautarzt*, **9**, 4, pp. 180–183, 6 fig., 1958.

Following a brief review of the literature of mixed dermatophyte infections the authors present the case of a 19-yr.-old man with *T. rubrum* infection of the arms and feet, and *T. verrucosum* infection of the neck.

502. Anderson (P. C.) & Fleck (R. L.). **Drug eruption due to fumagillin complicated by trichophytosis.**—*Arch. Derm., Chicago*, **77**, 6, p. 720, 1958.

At the U.S. Naval Dispensary, Navy Dept, Washington, D.C., a palmar scaling reaction which developed in 8 patients undergoing therapy with the amoebicide fumagillin was found to be complicated by *T. rubrum* infection in 2 cases which did not clear as expected. The condition responded to antifungal therapy.

503. Bocobo (F. C.) & Curtis (A. C.). **Accidental isolation of Trichophyton mentagrophytes from the floor of a schoolhouse.**—*Mycologia*, **50**, 2, pp. 164–168, 2 fig., 1958. [10 refs.]

A proven case of cryptococcosis having been seen in the Dept of Dermatology, University of Michigan, in a patient who at the onset of his illness had been working as a janitor in the Foster School of Ypsilanti, Michigan, samples of soil and floor dust from the school were taken, and though *Cryptococcus neoformans* was not recorded, *T. mentagrophytes* was isolated from the livers or spleens of mice inoculated with vacuum cleaner floor sweepings [cf. **2**, No. 2197]. The pathogenicity of the isolates was proved on 5 guinea-pigs. In an experiment on mice, *T. mentagrophytes* was recovered from peritoneal washings and liver up to 3 weeks, and from spleen up to 4 weeks, after intraperitoneal injection.

504. Catanei (A.) & Schousböe (A.). **Sur des souches algériennes de champignons à culture faviforme isolées de teignes humaines et animales.** [On the Algerian strains of fungi of faviform culture isolated from human and animal ringworms.] *Arch. Inst. Pasteur algér.*, **36**, 1, pp. 6–11, 1958.

Of recent years faviform strains of *Trichophyton*, previously associated exclusively with calves, have been isolated from cases of tinea, some of them severe and protracted, in humans in Algeria [cf. **2**, No. 1412]. From extensive observations it is concluded that the varieties *album*, *discoides*, and *ochraceum* should be united within the species *T. verrucosum*.

505. Kiessling (W.), Schönfeld (J.), & Bender (E.). **Über eine von Katzen übertragene Mikrosporieepidemie durch Microsporon canis in Kaiserslautern.** [On an epidemic of microsporosis caused by *Microsporum canis* at Kaiserslautern carried by Cats.]—*Arch. klin. exp. Derm.*, **207**, 1, pp. 71–85, 6 fig., 1958.

The 1st outbreak of infection by *M. canis* in which the fungus was simultaneously demonstrated in man (15 children and 1 adult) and cats in Germany [**1**, No. 834; **2**, No. 866] is fully described under its clinical, mycological, and therapeutic aspects. There was no mycological difference between the strains from human and animal sources. Local treatment comprising barium sulphide depilation and the application of myxal oils and aniline dyes gave highly satisfactory results; Castellani's solution proved specially effective.

506. Kaffka (A.) & Rieth (H.). **Laboratoriumstiere als Ursache einer Berufsdermatomykose und Massnahmen zur Verhütung weiterer Pilzinfektionen.** [Laboratory animals as the cause of an occupational dermatomycosis and measures for the prevention of further fungal infections.]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), **171**, 4–5, pp. 319–321, 1958.

A case of infection by *Trichophyton mentagrophytes*, involving the face, neck, and upper part of the body of a 35-yr.-old female laboratory assistant, is reported from the Hygienisches Institut der Freien und Hansestadt, Hamburg. Squamae and hairs from 5 of the animals (120 rabbits and 140 guinea-pigs) handled yielded cultures similar to the human isolate.

507. Vogel (R. A.) & Timpe (Alice M.). **Spontaneous Microsporum audouinii infection in a Guinea Pig.**—*J. invest. Derm.*, **28**, 4, pp. 331–332, 1 fig., 1957.

From the Medical Research Laboratory, Veterans Administrative Hospital, Atlanta, Georgia, a case is described of a circumscribed bald patch on the nose of a guinea-pig, from which *M. audouinii* was cultured.

508. Koch (H.) & Rieth (H.). **Endemische Trichophytie bei Meerschweinchen.** [Endemic *Trichophyton* infection in Guinea-pigs.]—*Arch. klin. exp. Derm.*, **205**, pp. 577–585, 3 fig., 1958.

In studies at the Universitäts-Hautklinik, Hamburg-Eppendorf, the authors established that in guinea-pig colonies thought to be free from fungal infection trichophytosis (*Trichophyton mentagrophytes* and *T. rubrum*) was quite commonly present (from 6 to 33% animals in 7 colonies examined) about the eyes, ears, nose, or snout, producing small scabby lesions attributed to mite infestation. Such spontaneous infections are of importance as a source of human infection.

509. Schirren (C.) & Rieth (H.). **Experimentelle Untersuchungen bei einigen durch Haustiere übertragbaren Dermatomykosen.** [Experimental investigations on some dermatomycoses transmissible by domestic animals.]—Reprint from *Berufsdermatosen*, **6**, 1, 6 pp., 4 fig., 1958.

In a study at the Universitäts-Hautklinik, Hamburg-Eppendorf, of the epidemiology of cattle trichophytosis in the Hamburg region, *Trichophyton rubrum* was occasionally encountered in addition to *T. verrucosum*, previously considered to be the sole agent of the disease in Germany.

Using Petri dishes as moist chambers the growth of various dermatophytes on human hair was studied. A clear, apparently liquified zone was visible round the penetration organs produced by *Microsporum canis*, and the possibility is discussed that this resulted from the action of a keratinolytic enzyme. F. Blank, in a personal communication, has informed the authors of the demonstration of such enzymes in *Candida albicans* by paper chromatography, and they consider that this technique might be successful in demonstrating them in *M. canis*.

510. Ozegović (L.) & Grin (I. E.). **Dermatomikoze domaćih životinja u našoj zemlji, s posebnim osvrtom na njihovu raširenost u NR B i H.** [Dermatomycoses in domestic animals in our country with special attention to their spread in Bosnia and Herzegovina.]—Reprint from *Veterinaria, Sarajevo*, **6**, 2–3, 12 pp., 2 graphs, 1957. [33 refs. English summary. *B.H.*, **33**, p. 233; *V.B.*, **28**, p. 239.]

Following a systematic investigation of dermatomycoses on cattle in 3 rural areas in Bosnia and Herzegovina, Yugoslavia, the authors report that of 863 calves examined 114 (13·5%) were infected, of 891 heifers 51 (5·7%), and of 2,572 adult animals 10 (0·38%). *Trichophyton verrucosum* was the most frequent cause of trichophytosis in cattle, 93·3%. *T. mentagrophytes* was less frequent and *T. violaceum* was recorded from one calf.

511. Kaplan (W.), Georg (Lucille K.), & Ajello (L.). **Recent developments in animal ringworm and their public health implications.**—*Ann. N.Y. Acad. Sci.*, **70**, 3, pp. 636–649, 1958. [57 refs.]

This contribution to a symposium on 'Animal disease and human health' [cf. **2**, No. 2328; **3**, Nos. 230–232, 234] presents the results of an animal ringworm survey by the Communicable Disease Center, Atlanta, Georgia, during 1956–7. Hairs or skin scrapings from 2,361 domestic animals (including 1,659 dogs, 524 cats, 56 horses, and 58 cattle) were examined, of which 27·2% were positive for fungi. Ten species were encountered: *Microsporum canis*, *M. gypseum*, *M. audouinii*, *M. distortum*, *Trichophyton mentagrophytes*, *T. equinum*, *T. verrucosum*, *T. rubrum*, *Keratinomyces ajelloi*, and *Trichosporon cutaneum*. Samples from 2,350 wild animals [cf. **3**, No. 228] yielded *M. gypseum* in 3, *T. mentagrophytes* in 9, and a new sp. of *Microsporum* in 74 cases. The authors consider that dermatophytes should be classified as anthropophilic, zoophilic, and geophilic.

512. Alkiewicz (J.), Eckstein (Z.), Halweg (H.), Krakówka (P.), & Urbański (T.). **Fungistatic activity of some hydroxamic acids.**—*Nature, Lond.*, **180**, 4596, pp. 1204–1205, 1957.

The authors report treatment at the Municipal Hospital No. 1, Poznan, Poland, of 21 cases of unspecified trichophytosis and epidermophytosis by the administration *per os* for 10 days of salicylhydroxamic acid in daily doses of 1 g. (for adults) or 0·5 g. (children). 'Quick healing followed, which in many cases was very spectacular' while 'investigation of blood and urine of patients did not show any unfavourable effect due to treatment'. 3,4-Dichlorophenoxyacethydroxamic acid at 0·003–0·025% was found to inhibit the growth of *Trichophyton, Candida albicans, Cryptococcus neoformans*, and other fungi in Sabouraud medium.

513. Gentles (J. C.). **Experimental ringworm in Guinea Pigs : oral treatment with griseofulvin.**—*Nature, Lond.*, **182**, 4633, pp. 476–477, 1958.

At the Dept of Bacteriology, University of Glasgow, guinea-pigs were inoculated experimentally with *Microsporum canis* and 10 days later treatment with griseofulvin was begun. The antibiotic was administered daily by mouth at a dosage of 60 mg./kg., control animals receiving unmedicated tablets. The benefits of the treatment were evident clinically by 4 days after the 1st dose. In the treated animals, about half the hair follicles were infected after 4 treatments, and by the 8th very few. Skin sections of the untreated at these times showed that almost all the hair follicles were heavily invaded. Under Wood's light, the infected hairs of treated animals fluoresced only at the tips, and microscopic examination showed that *M. canis* was present only in the upper part of the hair shaft. The uninfected basal part was sharply delimited from the invaded part, and malformation of the tips of the hyphae characteristic of the effect produced by griseofulvin was apparent in hairs cut longitudinally. It seems clear that the uninfected part of the hair had formed during treatment and was resistant to invasion.

Other experiments clearly demonstrated that griseofulvin is equally effective when given orally to guinea-pigs experimentally infected with *Trichophyton mentagrophytes*.

514. O'Brien (J. D. P.) & Sellers (K. C.). **A clinical trial of the treatment of cattle ringworm.**—*Vet. Rec.*, **70**, 15, pp. 319–321, 1958. [*V.B.*, **28**, p. 493.]

Four antifungal preparations (0·25% isoquinolium chloride, alcoholic 10% iodine and 2% phenol, 2% dichlorophen, and 0·1% phenyl mercuric dinaphythylmethane disulphonate) were tested against *Trichophyton verrucosum* var. *discoides* infections in cattle. None was effective.

515. a. Wheeler (C. E.), Cabaniss (W. H.), & Cawley (E. P.). **The germination of the fuseaus of Microsporum fulvum (M. gypseum).**—*J. invest. Derm.*, **30**, 1, pp. 27–32, 8 fig., 1958. [*Biol. Abstr.*, **32**, No. 34884.]

b. Silva (Margarita). **The effect of amino acids on the growth and sporulation of Trichophyton rubrum : possible application to diagnosis and therapy.**—*J. invest. Derm.*, **30**, 2, pp. 69–75, 3 fig., 1958. [*Biol. Abstr.* **32**, No. 34878.]

c. Bereston (E. S.), Robinson (H. M.), & Williams (Shirley A.). **The quantitative nutritional requirements of the genus Microsporum.**—*J. invest. Derm.*, **30**, 2, pp. 63–66, 1958. [*Biol. Abstr.* **32**, No. 34856.]

d. Burack (Adele M.) & Knight (S. G.). **Observations on submerged growth and deamination of amino acids by dermatophytes.**—*J. invest. Derm.*, **30**, 4, pp. 197–199, 1958.

e. Neuhauser (I.). **Avian egg-shell membrane as a culture medium for Dermatophytes.**—*Arch. Derm., Chicago*, **75**, 3, pp. 401–404, 4 fig., 1957. [*B.H.*, **32**, p. 810.]

516. Smith (J. G.), Sams (W. M.), & Roth (F. J.). **Tinea nigra palmaris. A disorder easily confused with junction nevus of the palm.**—*J. Amer. med. Ass.*, **167**, 3, pp. 312–314, 3 fig., 1958.

The 2 cases of infection by *Cladosporium werneckii* herein described from Miami, Florida, one in a 55-yr.-old woman and the other in a 5-yr.-old girl, bring the total for the State to 3 [**1**, No. 1802]. The fungus has also been reported in 4 cases in Texas [**3**, No. 52]. Attempts at experimental reproduction of the symptoms in human volunteers were unsuccessful.

517. Van Vlierberghe (R. G.), Pattyn (S.), & Vanbreuseghem (R.). **Chromoblastomycose guérie chez un tuberculeux au cours d'un traitement par l'isoniazide.** [Chromoblastomycosis cured in a tubercular subject in the course of treatment with isoniazid.] *Ann. Soc. belge Méd. trop.*, **37**, 6, pp. 965–971, 2 fig., 1957. [Flemish, English, German, and Spanish summaries.]

An infection of the left leg caused by *Fonsecaea* [*Phialophora*] *pedrosoi* in a male native patient at the Hôpital Prince Léopold, Elisabethville, was cured by a 7-month course of isoniazid (3 × 3 rimifon tablets daily) [cf. **2**, No. 1168], as also was the tuberculosis for which the treatment was originally instituted. This is stated to be the 13th published case of chromoblastomycosis in the Belgian Congo.

518. Bopp (C.). **Tratamento da cromoblastomicose pelo calciferol.** [The treatment of chromoblastomycosis with calciferol.]—Porto Alegre, Brasil, Livraria do Globo S.A., 184 pp., 117 fig., 1957.

Twenty male patients were treated with calciferol, iodides, vitamin C, topical applications, and Unna's zinc-gelatin boot. Calciferol was administered following 3 schemes. To 14 patients 30–80 doses of 600,000 units were orally administered every other day and in some patients the treatment was repeated twice. To 5 patients the same treatment was given for 2–6 weeks and thereafter only 1 dose every week for several months. To the 3rd group 1 weekly dose was given. (In this last group of 5 patients were 4 patients of the 1st group who relapsed.) Good results were recorded for all 3 schemes. In 5 patients a histological cure was obtained after 3–9 months of treatment and in the other patients clinical cures or improvement of the lesions were observed. The 2nd and 3rd schemes are preferred. The author thinks that the beneficial effect of vitamin D2 is due to modifications of the reaction of the tissues. In some patients with lesions on the lower and upper limbs and in other parts of the skin all the lesions improved at the same time.

Phialophora pedrosoi was isolated from 9 cases and *P. verrucosa* from 1 case. In the other cases the causal organism was not identified.

519. Bopp (C.) & Lima (G. M.). **Triplice infecção micotica : cromoblastomicose associada a blastomicose de Lutz e a esporotricose.** [Triple mycotic infection: chromoblastomycosis associated with Lutz's blastomycosis and sporotrichosis.]—*Med. e Cirurg.*, **18**, 1, pp. 35–45, 1958. [English summary.]

A case is presented of a patient with chromoblastomycosis (dating from 12 yr. and localized in the left foot and leg) and sporotrichosis (dating from 3 months and at first localized in the right medial finger, later developing as a nodular lymphangitis of the arm) while a diagnosis of South American blastomycosis of the lungs (*Paracoccidioides brasiliensis*) was based on an examination of the sputum. The

patient was working in a tunnel when he acquired the chromoblastomycosis in the State of Rio Grande do Sul, Brasil.

520. O'Connor (H.). **Les mycétomes en Afrique occidentale française.** [Mycetomata in French West Africa.]—*Méd. trop.*, **18**, 2, pp. 245–259, 4 fig., 1958.

The species involved in 22 cases are referred, on the basis of histological examination, to *Streptomyces pelletieri*, *S. madurae*, *S. brasiliensis*, *Madurella mycetomi*, and *M. grisea* [cf. **2**, Nos. 2158–9, 2344; **3**, Nos. 66–69, 246–249, *et passim*].

521. Reyes (O.) & Borelli (D.). **Un caso de micetoma podal por Madurella grisea.** [A case of Madura-foot caused by *Madurella grisea*.]—*Rev. Sanid. Asist. soc.*, **22**, 5–6, pp. 445–456, 1957. [English summary. *T.D.B.*, **55**, p. 574.]

In this report of a case in a woman from north-central Venezuela the granules are described and illustrated. Cultures were obtained and identified as *M. grisea* [**2**, No. 1911]. Diamino-diphenyl-sulfone [**2**, No. 1915] was administered to the patient for 6 months without success.

522. Maberti (S.) & Borelli (D.). **Un micetoma podal por Madurella mycetomi en Venezuela.** [A case of Madura-foot due to *Madurella mycetomi* in Venezuela.] *Gac. méd. Caracas*, **64**, pp. 279–303, 8 fig., 1957. [English summary. *T.D.B.*, **55**, p. 91.]

Several cases of Madura-foot of the black variety have been observed in Venezuela. Some cases were due to *M. grisea* [see above]. *M. mycetomi* was suspected in others. The authors report a case in a 10-yr.-old Indian boy with a complete mycological study. They also report the observation in *M. mycetomi* of aleuroconidia similar to those observed by Abbot [**2**, No. 1910]. As in the Sudan the infection was contracted in a dry area.

523. Mackinnon (J. E.), Artagaveytia-Allende (R. C.), & García-Zorrón (Noemí). **The inhibitory effect of chemotherapeutic agents on the growth of the causal organisms of exogenous mycetomas and nocardiosis.**—*Trans. R. Soc. trop. Med. Hyg.*, **52**, 1, pp. 78–86, 1958. [*T.D.B.*, **55**, p. 576.]

In a study at the Instituto de Higiene, Montevideo, Uruguay, of the *in vitro* sensitivity to drugs and antibiotics of several strains of each of 5 species of fungi and of 5 actinomycetes, aerobic agents of human mycetomas and visceral nocardiosis [cf. **2**, No. 1746], it was ascertained that *Streptomyces somaliensis* is sensitive to aureomycin, streptomycin, chloramphenicol, and penicillin, *S. madurae* to the first 2, and *S. pelletieri* to the first and the last.

Among the assayed aromatic diamidines, diamidinodiphenylamine dihydrochloride [**3**, No. 559] exerted a strongly inhibitory effect on *Madurella mycetomi* (as stated by Abbott [cf. **2**, No. 1910]), *M. grisea*, *Allescheria boydii*, *Phialophora jeanselmei*, and *S. madurae*. Stilbamidine isethionate had a very strong effect against *P. jeanselmei*.

The development of resistance to streptomycin and the aromatic diamidines was observed among the actinomycetes.

524. Staib (F.) & Ata (S.). **Zur Lungenaspergillose (Pneumomycosis aspergillina Virchow, Würzburg 1856).** [On pulmonary aspergillosis (pneumomycosis aspergillina Virchow, Würzburg 1856).]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), **171**, 4–5, pp. 322–333, 3 fig., 1 diag., 1958. [English, French, Spanish, and Russian summaries. *B.H.*, **33**, p. 846.]

At the Mediz. Univ.-Klinik, Würzburg, Germany, a 48-yr.-old male patient in the acute final stage of infection by *Aspergillus fumigatus* was cured by a course of

therapy with trichomycin, which also freed the respiratory system of fungus colonies in 2 other cases.

525. Di Menna (M[argaret] E.). **Candida albicans from grass leaves.**—*Nature, Lond.*, **181**, 4618, pp. 1287–1288, 1958.

The author reports from the Soil Bureau, D.S.I.R., Wellington, New Zealand, the isolation of *C. albicans* from a sample of perennial rye grass [*Lolium perenne*] taken from an area lightly stocked with sheep. The isolate was pathogenic for the rabbit. This is stated to be the 3rd report of *C. albicans* from a vegetable source [cf. N. Van Uden, Maria de Matos Faia, & Liliette Assis-Lopes, 'Isolation of *Candida albicans* from vegetable sources', *J. gen. Microbiol.*, **15**, 1, pp. 151–153, 1956]. The author concludes that *C. albicans* is not a true member of the phyllosphere flora and that contaminated grass is not a hazard to public health.

526. Ruiloba (J.). **La moniliasis en la medicina interna.** [Moniliasis in internal medicine.]—*Rev. Assoc. méd. argent.*, **71**, 1–3, pp. 9–14, 1957. [English summary.]

This is a short critical review on some new aspects of moniliasis. The author gives an account of the possible causes of the increased incidence. Nystatin [mycostatin] is considered as the drug of choice for treatment.

527. Ata (S.) & Staib (F.). **Der Einfluss der Vitamine des B-Komplexes auf Candida albicans während des Gefrieenprozesses.** [The influence of vitamins of the B-complex on *Candida albicans* during the freezing process.]—*Int. Z. Vitaminforsch.*, **28**, 1–2, pp. 157–160, 1957. [French and English summaries.]

In experiments at the Institut für Hygiene und Microbiologie, University of Würzburg, Germany, the mortality of cells of *C. albicans* frozen to −65° C was reduced or abolished by the addition to the physiological NaCl solution of vitamins of the B-complex, especially thiamine, pyridoxine, pyridoxamine, nicotinic acid, folic acid (all at 500 μg./ml.), biotin (100), and B_{12} (5).

[See also Ata (S.) & Staib (F.). **Kälteeinfluss auf Hefen und hefeartige Pilze.** [The influence of cold on yeasts and yeast-like fungi.]—*Zbl. Bakt.*, Abt. 2, **110**, 21–25, pp. 659–673, 2 fig., 1957.]

528. Kunz (C.). **Eine vereinfachte Methode zur Prüfung dur KH-Assimilation von Hefen.** [A simplified method for testing the KH-assimilation of yeasts.]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), **171**, 4–5, pp. 334–335, 1 fig., 1958.

The procedure herein described from the Hygiene-Institut, University of Vienna, is adapted from Linzenmeier's tooth-wheel paper-chromatogram for the determination of bacterial resistance to antibiotics (*Zbl. Bakt.*, Abt. 1 (*Orig.*), **167**, p. 327, 1956). The yeast used was *Candida albicans*.

529. Paine (T. F.). **The inhibitory actions of bacteria on Candida growth.**—*Antibiot. & Chemother.*, **8**, 6, pp. 273–281, 1 graph, 1958.

At the University of Alabama Medical Center, Birmingham, a number of bacteria, representative of the usual human flora, were grown in broth in mixed cultures with *C. krusei* and *C. tropicalis*. In general, the Gram− species, e.g., *Proteus vulgaris*, *Pseudomonas aeruginosa*, and *Aerobacter aerogenes*, were more effective inhibitors of the fungi than were the Gram+ cocci, though *Micrococcus pyogenes* var. *aureus*, *Neisseria catarrhalis*, and *Streptococcus faecalis* exerted significant activity. In most cases the antagonistic effect on the *C.* spp. appeared to operate through a lowering of the Eh of the medium by the bacteria.

530. Young (G.). **The process of invasion and the persistence of Candida albicans injected intraperitoneally into Mice.**—*J. infect. Dis.*, **102**, 2, pp. 114–120, 6 fig., 1958. [*B.H.*, **33**, p. 887.]

At the Dept of Biology, Boston University, 60% of the yeast forms of *C. albicans* injected into Carworth Farm Webster strain male mice developed pseudomycelia. The cells were ingested and occasionally digested by monocytes; the filaments penetrated the cells of the peritoneal fluid but were not completely engulfed and there was no sign of digestion. Polymorphonuclear cells did not appear until the 3rd or 4th hour after injection, by which time the number of yeast cells had fallen steeply.

Among sections of various organs taken 2 hr. after infection, only those of the pancreas were positive for the fungus, mycelium of which was invariably present in the connective tissue capsule and septa and in some of the blood vessels.

Blood cultures were usually positive at 24 hr., whether the strain of *C. albicans* was of high or low virulence. In the former case the organism persisted in the peritoneal cavity of all the animals up to 1 month, while in the latter the percentage of positive cultures declined. Kidney cultures were positive in 25 of 27 mice surviving 6 weeks after inoculation and in 16 of 30 killed after periods of 3–6 months.

Under the conditions of these experiments the mycelial rather than the yeast phase appears to be the infective form of the pathogen.

531. Rieth (H.). **Differential-Diagnose der Candida-Pilze.** [Differential diagnosis of the Candida fungi.]—*Arch. Klin. exp. Derm.*, **205**, pp. 541–550, 9 fig., 1958.

The author recommends the system of Lodder and Kreger-van Rij for the identification of *Candida* spp. and gives 3 keys which he has devised for differentiating between *Candida* and other genera and between *C.* spp.

532. Gordon (M. A.) with the technical assistance of Dorothy M. Baker. **Differentiation of yeasts by means of fluorescent antibody.**—*Proc. Soc. exp. Biol.* (*N.Y.*), **97**, 3, pp. 694–698, 4 fig., 1958.

At the Medical College of S. Carolina, Charleston, using the Coons technique (*J. exp. Med.*, **91**, p. 1, 1950), the globulin portion of antiserum produced in rabbits against *Candida albicans* was labelled with fluorescein isocyanate and applied as a differential stain to dried smears from various yeast-like cultures, of which 27 were *C.* strains. All 28 strains of *C. albicans* and all 8 of *C. tropicalis* gave positive staining reactions with the anti-*C. albicans* conjugates, whereas 21 representing 6 other *C.* spp. and 46 of organisms belonging to 15 other genera reacted negatively or weakly and were readily distinguishable from the 2 foregoing species. The staining specificity of high-titred conjugates was greatly enhanced by absorption with cells of *C. parakrusei*.

In preliminary tests by the same method with anti-*Histoplasma capsulatum* (H–3) and anti-*Blastomyces dermatitidis* (B–1) globulins obtained from rabbits experimentally infected with the respective fungi, the B–1 conjugates stained yeast cells of both *B. dermatitidis* and *C. albicans* strongly but reacted only weakly or not at all to *B.* [*Paracoccidioides*] *brasiliensis* or *H. capsulatum*. H–3 conjugates stained *H. capsulatum* much more strongly than *B. dermatitidis* while their reaction with *P. brasiliensis* was very weak.

533. Wickerham (L. J.). **Apparent increase in frequency of infections involving Torulopsis glabrata. Procedure for its identification.**—*J. Amer. med. Ass.*, **165**, 1, pp. 47–48, 1957. [*B.H.*, **33**, p. 75.]

534. Pollack (J. D.) & Benham (Rhoda W.). **The chlamydospores of Candida albicans; comparison of three media for their induction.**—*J. Lab. clin. Med.*, **50**, 2, pp. 313–317, 1957. [*B.H.*, **32**, p. 1199.]

The use of corn meal agar is advocated.

535. a. **Symposium sobre Moniliasis (22–26 de Octubre 1956).** [Symposium on moniliasis (22–26 October 1956).]—*Rev. Asoc. méd. argent.*, **71**, 1–3, pp. 2–71, 1957. [*B.H.*, **33**, p. 40.]

A symposium of 40 contributions.

b. Niño (F. L.). **Las especies del género Candida en patología humana.** [The species of the genus *Candida* in human pathology.]—*Rev. Asoc. méd. argent.*, **71**, 1–3, pp. 2–5, 1957. [English summary.]

C. albicans is the predominant species.

c. Vogel (R. A.) & Moses (Mary R.). **Weld's method for the rapid identification of Candida albicans in clinical materials.**—*Amer. J. clin. Path.*, **28**, 1, pp. 103–106, 1 fig., 1957. [*B.H.*, **33**, p. 74.]

d. Gale (D.) & Sandoval (B.). **Response of Mice to the inoculations of both Candida albicans and Escherichia coli. I. The enhancement phenomenon.**—*J. Bact.*, **73**, pp. 616–624, 4 fig., 1957. [*B.H.*, **32**, p. 1001; *V.B.*, **27**, p. 515.]

e. Gale (D.) & Devesty (G.). **Response of Mice to inoculations of both Candida albicans and Escherichia coli. II. The effect of the strain of Mice.**—*J. infect. Dis.*, **101**, 1, pp. 48–50, 2 fig., 1957. [*B.H.*, **33**, p. 181.]

536. Mottet (E.). **Un dérivé de l'hexane, actif contre les Candida et utilisable en médécine.** [A derivative of hexane active against *Candida* and useful medicinally.]—*C.R. Soc. Biol.* (*Paris*), **51**, 9, pp. 1643–1646, 1957.

During routine tests at the Laboratory of Bacteriology and Serology, University of Louvain, Belgium, it was noted that a sample containing the di-isothionate of di(amino-4-4'-diphenoxy) 1–6 hexane, a substance already used medicinally against various infections, was inhibitory to *Candida*. Dilution tests against *C. albicans*, *C. krusei*, and *C. tropicalis* showed that 22 of 42 isolates were inhibited in 24 hr. at 10 μ/ml. and all were inhibited in 5 days at 25 μ/ml. The substance is rather less active than nystatin [mycostatin].

537. Miyazawa (F.). **Experimental study on chemotherapy of candidioses. III. Especially, on the form of growth of Candida albicans. IV. Especially, the effect of chemotherapeutic agents on candidioses in vitro and in vivo.**—*Bull. nat. hyg. Lab., Tokyo*, **75**, pp. 265–270; 271–277, 1957. [Japanese. Abs. from English summaries.]

The author describes the influence of antibiotics, pH of the medium, and the concentration of glucose, serum albumin, and serum globulin on the growth of *C. albicans*, and the difference between the spreading factor in the mycelial form and that in the yeast form of the fungus. In the 2nd paper, he describes experiments in which gentian violet and trichomycin inhibited the growth of *C. albicans* in serum and prevented the death of an experimentally infected mouse.

538. Martinez-Montes (E. A.) & Daglio (C. A. N.). **Comportamiento de la especie Candida albicans frente a los antibióticos.** [The behaviour of the species *Candida albicans* in the presence of antibiotics.]—*Pren. méd. argent.*, **44**, 3, pp. 184–187, 1957.

Cultures of *C. albicans* alone and associated with *Micrococcus aureus*, streptococci,

Escherichia coli, and *Proteus* sp. were grown on glucose broth agar. *M. aureus* and the streptococci did not interfere with the development of *C. albicans*, but *E. coli* and *Proteus* sp. did so, though this effect was avoided in the area of diffusion of an antibiotic, neomycin, active against the bacteria.

539. Littman (M. L.), Pisano (M. A.), & Lancaster (Rose M.). **Induced resistance of Candida species to nystatin and amphotericin B.**—*Antibiotics Ann., 1957–1958*, pp. 981–987, 1958.

At Mt. Sinai Hospital, New York, and St. John's University, Brooklyn, N.Y., 5 *Candida* spp. (1 typical strain of each) were passaged through Penassay broth (+1% glucose) containing increasing concs. of nystatin [mycostatin] or amphotericin B (48 hr. at each conc. of antibiotic: 50 transfers). *C. albicans* did not develop resistance to either antibiotic. *C. tropicalis* developed a 15-fold increase in resistance to mycostatin and a 400-fold increase in resistance to amphotericin B. There was an increase in resistance to both antibiotics also in *C. guilliermondii*, *C. krusei*, and *C. stellatoidea*, and to amphotericin B only in *C. parakrusei*. Exposure to the one antibiotic was observed to increase resistance to the other. [Cf. H. A. Stout & J. F. Pagano, *Antibiotics Ann., 1955–1956*, p. 704, 1956.]

540. Garrahan (J. P.), Sampayo (R. L.), Meroni (R. J.), Landívar (R. O.), & Masanti (J. G.). **Acción de los antibióticos y quimioterápicos sobre la incidencia del género Candida en el tracto gastrointestinal. Efectos de la nistatina.** [The effect of antibiotics and chemotherapeutics on the incidence of *Candida*-like fungi in the digestive tract. The effect of nystatin.]—*Rev. Asoc. méd. argent.*, **71**, 1–3, pp. 27–35, 1957. [English summary.]

In an investigation on the effects of the administration of antibiotics to children 1 month–2 yr. old, cultures of *Candida* were obtained from the faeces of 18 of 32 children (56%) who had not been submitted to treatment with antibiotics and the average number of colonies/g. was 16,959. Cultures of *Candida* were obtained from 23 of 27 children (85%) submitted to treatment with antibiotics and the average number of colonies reached to 1,183,912/g. High doses of nystatin [mycostatin] were administered orally during 2 days to a group of 18 children with more than 50,000 colonies/g. Cultures became negative in 17 children and the average number of colonies was 583/g. faeces. Nevertheless, cultures of *Candida* were obtained from the saliva of 4 of 10 children of the last group.

541. The following papers give details of the clinical use of mycostatin (nystatin) against moniliasis (*Candida albicans*) with, unless stated to the contrary, successful results:

a. Mirande (L. M.). **Candidiasis generalizada del lactante.** [Generalized candidiasis of the newborn.]—*Arch. argent. Derm.*, **7**, 3, pp. 267–270, 1957.

A case report of cutaneous moniliasis.

b. Robinson (R. C.). **Cutaneous moniliasis in infants.**—*J. Pediat.*, **50**, 6, pp. 721–723, 1 col. fig., 1957. [*B.H.*, **32**, p. 955.]

c. Sampayo (R. L.), Meroni (R. J.), & Landívar (R. O.). **Moniliasis cutáneo-mucosa de localización múltiple complicando la terapéutica con antibióticos.** [Generalized mucocutaneous moniliasis complicating treatment with antibiotics.]—*Sem. méd.* (*B. Aires*), **111**, 23, pp. 1142–1144, 1957.

d. Conti (A. L.) & Ladd (N.). **Consideraciones clinicoterapéuticas sobre las candidomicosis cutaneomucosas.** [Clinical and therapeutical comments on mucocutaneous moniliasis.]—*Pren. méd. argent.*, **44**, 26, pp. 2014–2016, 1957.

Records 32 cases of moniliasis of the skin and vagina.

e. McKendrick (G. D. W.) & Medlock (J. M.). **Pulmonary moniliasis treated with nystatin aerosol.**—*Lancet*, 7021, pp. 621–622, 1 chart, 1958.

f. Solari (M. A.) & Fernández (M. N. G.). **Nistatina sobre foco intestinal de 'Candida albicans' y síndromes alérgicos.** [The effects of nystatin on *Candida albicans* in the intestine and on allergic syndrome.]—*Rev. Asoc. méd. argent.*, **71**, 1–3, pp. 36–39, 1957. [English summary.]

g. Iacapraro (G.). **Antibióticos de amplio espectro y nistatina en urología.** [Broad spectrum antibiotics and nystatin in urological conditions.]—*Rev. Asoc. méd. argent.*, **71**, 1–3, pp. 64–71, 1957. [English summary.]

A study of 35 cases.

h. Browne (A. D.). **Nystatin therapy in monilial vulvovaginitis.**—*J. Irish med. Ass.*, **40**, 237, pp. 86–87, 1957.

i. Barr (W.). **Current therapeutics. Nystatin.**—*Practitioner*, **178**, 1067, pp. 616–621, 1 fig., 1957.

Records 64 cases of vaginitis and 15 of 'diabetic' monilial vulvitis.

j. Martinez-Montes (E. A.). **Tratamiento de la micosis genital.** [The treatment of mycotic vulvovaginitis.]—*Rev. Asoc. méd. argent.*, **71**, 1–3, pp. 53–56, 1957. [English summary.]

Clinical cures were also obtained with gentian violet and with caprilic acid derivatives.

k. Kaminsky (A.), Daitsch (J.), & Kriner (J.). **Granuloma moniliásico cutáneo-mucoso sistémico.** [Mucocutaneous, systemic monilial granuloma.]—*Sem. méd.* (*B. Aires*), **110**, 17, pp. 548–552, 1957.

The beneficial effect of mycostatin in a case of cutaneous, buccal, and vaginal moniliasis did not persist when the treatment was interrupted.

l. Kaminsky (A.), Kaplan (A.), & Kaplan (H.). **Moniliasis y acrodermatitis enteropática.** [Moniliasis and enteropathic acrodermatitis.]—*Rev. Asoc. méd. argent.*, **71**, 1–3, pp. 57–64, 1957. [English summary.]

The administration of mycostatin and aureomycin for 3 days did not modify the main aspects of *Candida albicans* lesions of the buccal mucosa, anus, and genitals of a child but a dramatic response followed the administration of di-iodoquin.

542. a. Roda (A. P.), Aghirre (S. A.), & Mijaro (G. S.). **Incidence of the species Candida from different sources and their sensitivity to mycostatin.**—*J. Philipp. med. Ass.*, **33**, 4, pp. 251–255, 1957.

b. Jennison (R. F.) & Stenton (P.). **Sensitivity of Candida strains to nystatin.**—*J. clin. Path.*, **10**, 3, pp. 219–221, 1957. [*B.H.*, **32**, p. 1199.]

543. Fumbarg (D.). **Vulvovaginitis tricomoniásica y moniliásica. Su tratamiento con tricomicina.** [Trichomonal and monilial vulvovaginitis. Its treatment with trichomycin.]—*Pren. méd. argent.*, **44**, 33, pp. 2591–2592, 1957.

Fourteen cases of moniliasis (*Candida albicans*) of the vagina were treated with trichomycin. The pruritis and other symptoms disappeared in 3–10 days.

544. Mendizabal (A. F.), Inza (R.), & Salaber (J. A.). **El tricomicin. Nuevo antibiótico para el tratamiento de colpitis por tricomonas y Candida albicans.** [Trichomycin. New antibiotic for the treatment of vaginitis caused by *Tricho-*

monas and *Candida albicans*.]—*Rev. Asoc. méd. argent.*, **71**, 1–3, pp. 48–50, 1957. [Also in *Sem. méd.* (*B. Aires*), **111**, 12, pp. 576–577, 1957.]

Tablets of 50,000 units of trichomycin were applied in the vagina twice a day for 10 days. Nine of 30 cases of moniliasis and 16 of 25 cases of trichomoniasis were cured. Three out of 8 cases of mixed infection were also cured. The authors conclude that trichomycin is more effective in trichomoniasis than in candidiasis.

545. Magnin (P. H.) & Vivot (N. A.). **Tratamiento de las micosis superficiales con tricomicin.** [The treatment of superficial mycoses with trichomycin.]—*Rev. Asoc. méd. argent.*, **71**, 1–3, pp. 25–27, 1957. [English summary. Also in *Pren. méd. argent.*, **44**, 17, pp. 1303–1305, 1957.]

Three cases of monilial paronychia, 2 of erosio interdigitalis, 2 of pityriasis versicolor, 2 of trichophytic onychia, and 6 other cases of infections of the glabrous skin by dermatophytes were treated with applications of an ointment with 100,000 to 150,000 units of trichomycin for 1 to 3 weeks. The treatment was successful.

546. Iacapraro (G.). **Sindrome gastrointestinal por antibioticos de amplio espectro. Las monilias, Candida, como factor etiologico.** [Gastrointestinal syndromes due to broad spectrum antibiotics. The monilias, *Candida*, as causal organisms.]—*Pren. med. argent.*, **44**, 25, pp. 1936–1943, 1957.

A study on the effect of persistent administration of tetracyclines and chloramphenicol to 28 patients with infections of the urogenital apparatus is reported. In 9, gastrointestinal disturbances coincided with an increase of yeast-like fungi in the faeces and subsided when the number of fungi decreased. In 6, similar disturbances appeared without an increase in yeast-like fungi while in 7 the number of yeasts increased but no intestinal disturbances were recorded.

547. Kaminsky (A.), Sevinsky (B.), & Libedinsky (D.). **Nicetin en el tratamiento de ciertas moniliasis cutaneas.** [Nicetin for the treatment of cutaneous moniliasis.]—*Rev. Asoc. méd. argent.*, **71**, 1–3, pp. 18–20, 1957. [English summary.]

Topical application of a solution of nicetin, followed during the night by an ointment, induced after 2 months the cure of 3 of 8 cases of paronychia. In 8 of 11 cases of interdigital moniliasis of the hands the same treatment proved efficient. One patient did not tolerate the treatment.

548. O'Grady (F.) & Thompson (R. E. M.). **Comparative effects of chlortetracyline and cortisone on a local monilial lesion in the Mouse.**—*Brit. J. Pharmacol.*, **13**, 1, pp. 1–5, 7 graphs, 1958. [*V.B.*, **28**, p. 429.]

At the Bland Sutton Institute of Technology, Middlesex Hospital, London, the subcutaneous injection of mice suffering from lesions caused by inoculation with *Candida albicans* with quasi-toxic doses of chlortetracyline [aureomycin] resulted in a persistent suppression indistinguishable from a curative effect. The temporary suppression due to similar treatment with cortisone was followed by a sharp rise to the control size and then an increase above it. Superinjection of the lesions with aureomycin induces a very large and persistent swelling, treatment of which with quasi-toxic doses of the same antibiotic yielded similar results to cortisone.

549. Bret (J.) & Coupe (C.). **Vaginites et infection neo-natale. Etiologie des mycoses du nouveau-né.** [Vaginitis and neo-natal infection. Etiology of mycoses of the new-born.]—*Pr. méd.*, **66**, 41, pp. 937–938, 1958.

Vaginal swabs were taken from 300 women attending the Maternité de l'Hôpital de Créteil, Seine, France, just before the birth of their babies, and oral and nasal swabs taken from their infants at birth and 4 days later. At the time of birth 20%

of the women were found to be carriers of *Candida albicans* and 83% of these infected their infants. All children infected at birth were born of infected mothers. Of the infected children 40% were free from *C. albicans* on the 10th day, and no explanation could be found for this spontaneous disappearance. *C. albicans* was sometimes in the urine of the infants, but appeared to have no pathogenic significance. The authors conclude that prophylaxis of mycoses of the new-born is best carried out by treatment of vaginitis during pregnancy.

550. Daglio (C. A. N.) & Martinez-Montes (E. A.). **Estudio de los hongos blastoesporados aislados de vulvovaginitis.** [Study of the yeast-like fungi isolated from cases of vulvovaginitis.]—*Rev. Asoc. méd. argent.*, **71**, 1–3, p. 45, 1957. [English summary.]

Of 50 isolates from 50 cases in Buenos Aires 37 were identified as *Candida albicans*, 7 as *Torulopsis glabrata*, 4 as *C. krusei*, 1 as *C. tropicalis*, and 1 as *C. stellatoidea*.

551. Bonfiglioli (H.) & Longobardi (A. L.). **Los hongos levaduriformes en los esputos de los tuberculosos pulmonares.** [Yeast-like fungi in the sputum of patients with pulmonary tuberculosis.]—*Sem. méd.* (*B. Aires*), **111**, 25, pp. 1240–1242, 1957.

Yeast-like fungi were isolated from the sputum of 33 of 88 patients treated with streptomycin. In 24 cases *Candida albicans* was cultivated. The authors estimate that this result does not differ from those recorded before the use of antibiotics.

552. Hetzel (B. S.) & Robson (H. N.). **The syndrome of hypoparathyroidism, Addison's disease and moniliasis.**—*Aust. Ann. Med.*, **7**, 1, pp. 27–33, 1958.

This paper is mainly concerned with the rare combination of idiopathic hypoparathyroidism and Addison's disease in a 16-yr.-old girl at the Royal Adelaide Hospital, but mention is also made of an associated chronic monilial infection [*Candida albicans*] involving the tongue, buccal mucosa, and finger nails [**2**, No. 1311].

553. Howard (R. M.) & Sheldon (W. H.). **Pneumocystis pneumonia.**—*J. Dis. Child.*, **95**, 1, pp. 18–24, 1958.

A case of interstitial plasma cell pneumonia is described. The patient, a 7-month-old white American boy, died and autopsy was performed. The organism was identified as *Pneumocystis carinii* in histological sections and in imprint smears of the lung. It is regarded by some workers as a protozoon and by others as a fungus. Attempts were made to isolate a fungus but no fungal elements were seen on direct examination and no growth in culture on various media.

554. Spesivtseva (Mme N. A.) Кокцидиоидомикоз. [Coccidioidomycosis.]—Ветеринария [*Veterinariya, Moscow*], **34**, 2, pp. 14–20, 1957.

This is a general review covering the etiology, host range, epidemiology, clinical picture, pathology, diagnosis, veterinary aspects, and control of this disease. The literature on which it is based is not cited, though authors' names are mentioned.

555. Pappagianis (D.) & Kobayashi (G.). **Production of extracellular polysaccharide in cultures of Coccidioides immitis.**—*Mycologia*, **50**, 2, pp. 229–238, 1 graph, 1958.

Details are given of studies at the School of Public Health, University of California, on 3 strains of *C. immitis* differing in virulence towards white mice, with regard to growth rate and output of polysaccharide, non-dialysable, nitrogenous substances and precipitinogen over a period of 18 weeks. There appeared to be no correlation between virulence and the production of extracellular polysaccharide but the libera-

tion of non-dialysable, nitrogenous substances appeared to be proportional to virulence. The formation of precipitinogen was most rapid in cultures of a strain of intermediate virulence.

556. Williams (R. M.) & Skipworth (G. B.). **Treatment of disseminated coccidioidomycosis with amphotericin B.**—*Arch. Derm., Chicago,* **78**, 1, pp. 97–100, 6 fig., 1958.

At the Letterman Army Hospital, San Francisco, a granulomatous lesion of *C. immitis* on the cheek of a 22-yr.-old negro showed considerable improvement following 6 weeks' intravenous treatment with amphotericin B (50–75 mg. daily on alternate days, to a total of 1,610 mg.). Previously a 6 weeks' course of oral therapy had given no improvement. Eighteen days after completion of the treatment the coccidiodin C.F. titre had fallen from 4+ at 1:128 to 3+ at 1:32, and only one spherule was found in an examination of several biopsy specimens. A prolonged follow-up was impossible because the patient left the army, but the drug is thought to merit further clinical trials.

557. Klapper (Margaret S.), Smith (D. T.), & Conant (N. F.). **Disseminated coccidioidomycoses apparently cured with amphotericin B.**—*J. Amer. med. Ass.*, **167**, 4, pp. 463–466, 4 fig., 1 graph, 1958.

This is a report from the Duke Hospital, Durham, N. Carolina, of an apparently complete cure, by a 14-month course of therapy with amphotericin B [see above], of a widepsread musculoskeletal infection by *Coccidioides immitis* of 10 yr. duration in a 34-yr.-old woman.

558. Huppert (M.) & Walker (Leila J.). **The selective and differential effects of cycloheximide on many strains of Coccidioides immitis.**—*Amer. J. clin. Path.*, **29**, 3, pp. 291–295, 1958. [Summary in Interlingua. *T.D.B.*, **55**, p. 1047.]

All 84 strains of *C. immitis* tested at the Veterans Administration Hospital, San Fernando, California, proved resistant to actidione at 0·5 μg./ml., while only 4 were inhibited at the max. conc. of 2·5. In serial dilutions of the fungus approximately the same numbers of colonies developed on media with and without the antibiotic. Even the strains of exceptionally low pathogenicity to experimental animals were resistant to actidione. Hence growth on a medium containing the antibiotic may denote that a culture which produced no disease at the 1st trial will subsequently do so. Unusually heavy suspensions of such cultures should be used in inoculation tests on at least 5 animals. In this way the incorporation of actidione with the medium may serve to differentiate *C. immitis* from culturally similar saprophytes.

559. Mackinnon (J. E.), Artagaveytia-Allende (R.), & García-Zorrón (Noemí). **M & B 938 in experimental coccidioidomycosis in Mice.**—*Trans. R. Soc. trop. Med. Hyg.*, **52**, 1, pp. 92–93, 1958. [*T.D.B.*, **55**, p. 578.]

In a letter from the Instituto de Hygiene, Montevideo, Uruguay, the writers bring forward evidence showing that the administration of M & B 938 (diamidinodiphenylamine dihydrochloride [**3**, No. 523]) to mice experimentally infected with *Coccidioides immitis* eradicated the infection from a large proportion of the animals.

560. Zontine (W. J.). **Coccidioidomycosis in the Horse—a case report.**—*J. Amer. vet. med. Ass.*, **132**, 11, pp. 490–492. [19 refs.]

A clinical case, believed to be the first reported, of coccidioidomycosis (*Coccidioides immitis*) in a horse is described from Lancaster, California. Abscesses were present in the spleen, lungs, and liver. The diagnosis was made by the Armed Forces Institute of Pathology.

561. Maddy (K. T.). **Disseminated coccidioidomycosis of the Dog.**—*J. Amer. vet. med. Ass.*, **132**, 11, pp. 483–489, 11 fig., 1958. [16 refs.]

Necropsies were made in Phoenix, Arizona, on 100 dogs with disseminated coccidioidomycosis, all diagnoses being confirmed by the culture of *Coccidioides immitis*. The age and breed incidence and the clinical signs and pathogenesis are discussed. Fifty-nine dogs had gross lesions of the leg bones and during life 47 had been lame. The bone lesions in the dog were proliferative whereas in man they are destructive.

562. a. Chapman (M. G.) & Kaplan (L.). **Cardiac involvement in coccidioidomycosis.**—*Amer. J. Med.*, **13**, 1, pp. 87–96, 1957.

b. Cortner (J. W.) & Schwarzmann (J. R.). **Bone lesions in disseminated coccidioidomycosis.**—*Ariz. Med.*, pp. 401–404, 1957.

c. Smith (C. E.), Saito (Margaret T.), Campbell (Charlotte C.), Hill (Grace B.), Saslaw (S.), Salvin (S. B.), Fenton (Jane E.), & Krupp (M. A.). **Comparison of complement fixation tests for coccidioidomycosis.**—*Publ. Hlth. Rep.* (*Wash.*), **72**, 10, pp. 888–894, 1 graph, 1957. [*T.D.B.*, **55**, p. 324.]

d. Goldschmidt (E. P.) & Taylor (G. W.). **Nutritional requirements for the growth and arthrospore formation of Coccidioides immitis.**—*J. Bact.*, **75**, 3, pp. 265–271, 1958. [*T.D.B.*, **55**, p. 1046.]

The results suggested that high conc. of ammonium lactate and Fe and high pH inhibited arthrospore formation but not growth.

e. Goldschmidt (E. P.), Taylor (G. W.), & Demetroulakos (L. J.). **Biochemical changes occurring during growth of Coccidioides immitis in a defined medium.**—*J. Bact.*, **75**, 6, pp. 702–706, 4 fig., 2 graphs, 1958. [10 refs.]

f. Vogel (R. A.), Peace (R. J.), & Koger (M. T.). **Histopathologic reactions of the yolk sac tissue of embryonated hen's eggs to Coccidioides immitis.**—*Amer. J. Path.*, **33**, 5, pp. 1023–1033, 7 fig., 1957. [*T.D.B.*, **55**, p. 323.]

563. Littman (M. L.). **Capsule synthesis by Cryptococcus neoformans.**—*Trans. N.Y. Acad. Sci.*, Ser. II, **20**, 7, pp. 623–648, 2 fig., 6 graphs, 1958. [57 refs.]

The 40 strains of *C. neoformans* used in these studies at the Mount Sinai Hospital, New York, were isolated from human cases of meningitis and pigeon excreta. The fungus showed an absolute requirement for thiamine and its moieties and a lack of response to other water-soluble vitamins. In a glucose synthetic basal medium, thiamine stimulated capsule synthesis over a range of 0·00001–0·1 μg./ml. Of 25 amino acids supplied as sole sources of carbon, D-, L-, and DL-glutamic acid, L-proline, and limited quantities of L-asparagine and DL-serine were assimilated. A number of polysaccharides, ranging from glyceraldehyde to starch, as well as various carbohydrates existing in normal cerebrospinal fluid, were also utilized. Of the carbohydrate intermediates offered, aldo- and ketohexoses, DL-glyceraldehyde, and α-ketoglutaric acid were readily accepted. Neutral fat inclusions were synthesized from every carbohydrate source assimilated and desoxyribonucleic acid from D-ribose, D-glucose, sucrose, and starch.

A microbiological assay technique for thiamine in cultures of *C. neoformans* is described. Normal and infected spinal fluids contained 0·001 μg./ml. free thiamine, the ½-maximal value of which was 0·0003 μg./ml. for the fungus in a synthetic medium.

A capsule agar and broth culture medium was formulated in which N was provided by ammonium sulphate and C by sodium glutamate, maltose, and sucrose.

Mineral salts were included, and thiamine was added at the opt. conc. of 0·001 g./l. These constituents stimulated encapsulation of all the strains under observation.

The unusual affinity of *C. neoformans* for the central nervous system is attributed to the availability in the brain and cerebrospinal fluid of nutrients in the optimal concentrations requisite for its development.

564. Rebers (P. A.), Barker (S. A.), Heidelberger (M.), Dische (Z.), & Evans (E.E.). **Precipitation of the specific polysaccharide of Cryptococcus neoformans A by types II and XIV of antipneumococcal sera.**—*J. Amer. chem. Soc.*, **80**, 5, pp. 1135–1137, 1958.

It is reported in this joint contribution from the Universities of Rutgers, Columbia, and Alabama that type-specific polysaccharide of *C. neoformans A* [**1**, No. 2255], known to contain xylose, galactose, mannose, and glucuronic acid, is a mixture of at least 2 polysaccharides, since the proportion of galactose in the mixture was increased by fractional precipitation with type XIV anti-pneumococcal serum. Neither cetyltrimethylammonium bromide nor type II anti-pneumococcal serum having effected any fractionation, both polysaccharides are presumed to contain glucuronic acid.

565. Rubin (H.), Lehan (P. H.), Fitzpatrick (M. J.), & Furcolow (M. L.). **Amphotericin B in the treatment of cryptococcal meningitis.**—*Antibiotics Ann., 1957–1958*, pp. 71–74, 1958.

A report of 6 cases treated intravenously with amphotericin B to a total dosage ranging from 1·4 to 3·7 g. in the 5 patients who survived the treatment. In follow-up studies covering periods ranging from 5 to 10 months after completion of treatment the CSF remained fungus-free in all cases; 3 remained symptom-free; 1 symptom-free save for occasional headaches and a somewhat high CSF protein level; and 1, a patient who had had the disease for 10 years, showed no change in clinical status except for a 'definite improvement' in the CSF. These results are considered promising.

566. a. Appelbaum (E.) & Shtokalko (S.). **Cryptococcus meningitis arrested with amphotericin B.**—*Ann. intern. Med.*, **47**, 2, pp. 346–351, 1 fig., 1957. [*B.H.*, **33**, p. 42.]

b. Crounse (R. G.) & Lerner (A. B.). **Cryptococcosis : case with unusual skin lesions and favourable response to amphotericin B therapy.**—*Arch. Dermat., Chicago*, **77**, 2, pp. 210–215, 4 col. fig., 1958. [*B.H.*, **33**, p. 581.]

567. Bonfiglioli (H.) & Longobardi (A. L.). **Sensibilidad 'in vitro' de Cryptococcus neoformans a diversos antibióticos y quimioterápicos.** [On the 'in vitro' sensibility of *Cryptococcus neoformans* to several antibiotics and chemotherapeutics.]—*Pren. méd. argent.*, **44**, 34, pp. 2657–2659, 1957.

Twelve strains of *C. neoformans* were assayed with the following drugs: aureomycin, terramycin, chloramphenicol, penicillin, polymixin, tetracin, isoniazid, *p*-aminosalicylic acid, 2 sulphamides (Cibazol and Elkosina), mycostatin, and nicetin.

Mycostatin inhibited 1 strain at 1·6 units/ml.; 3·2 units/ml. were necessary to inhibit 8 strains, and 16 units/ml. the other three. Nicetin at 10 mg./ml. inhibited 1 strain, but up to 100 mg. were necessary to produce a similar effect in the other strains. Polymixin at 50–100 mg./ml. was also inhibitory. The other drugs showed no inhibitory effect.

568. Burns (R. E.). **Fungous disease as a complication of steroid therapy.**—*Arch. Derm., Chicago*, **77**, 6, pp. 686–689, 1958.

From the Dept of Dermatology, Henry Ford Hospital, the author briefly presents the case of a 71-yr.-old man who died of a generalized *Cryptococcus neoformans* infection of the lungs and pleura following heavy dosage with cortisone (100 mg. daily) and ACTH gel (80, later 60 units/day) for generalized exfoliative psoriasis. The literature on systemic fungal infections following steroid therapy is reviewed. Superficial mycoses, where present, should if possible be brought under control before treatment is started, or, failing that, should be treated concurrently.

569. Fazekas (G.) & Schwarz (J.). **Histology of experimental murine cryptococcosis.**—*Amer. J. Path.*, **34**, 3, pp. 517–529, 9 fig., 1958.

The histological lesions developing in the lungs, liver, spleen, pancreas, heart, and meninges and brain of mice inoculated intraperitoneally and intracerebrally with *Cryptococcus neoformans* isolated from pigeon's nests in the Cincinnati area are described. The brain and lungs were the most frequent sites of infection.

570. Dacorso (P.) & Chagas (W. A.). **Criptococose pulmonar em caprino.** [Pulmonary cryptococcosis in a Goat.]—*An. Col. anat. bras.*, **3**, pp. 55–70 1957.

A diagnosis of *Cryptococcus neoformans* infection was made after the inspection of the lung lesions in a goat slaughtered in Rio de Janeiro.

571. Sutmöller (P.) & Poelma (F. G.). **Cryptococcus neoformans infection (torulosis) of Goats in the Leeward Islands region.**—*W. Indian med. J.*, **6**, 4, pp. 225–228, 4 fig., 1957. [12 refs.]

During the period 1953–56 infection by *C. neoformans* occurred in 51 out of 6,578 goats slaughtered in Aruba, Netherlands Antilles, the corresponding figures for Curaçao being 20 and 19,854 respectively. The diseased animals originated in the Leeward Islands, Colombia, and Venezuela. Pathologico-anatomical changes were largely restricted to foci in the lungs.

572. Carmichael (J. W.). **Geotrichum candidum.**—*Mycologia*, **49**, 6, pp. 820–830, 9 fig., 1958.

Fifty-two strains of *G. candidum* were studied and compared on standard culture media under carefully controlled conditions, and a composite description is presented. The species is illustrated and emended so as to separate it clearly from others in the genus. Link's original description and figure serve as lectotype. A list of 55 synonyms is given.

573. Säez (H. E.). **Le Geotrichum candidum Link. Caractéristiques morphobiologiques : fréquence chez l'Homme.** [*Geotrichum candidum* Link. Its morphobiological characters and its frequency in Man.]—*Bull. Soc. mycol. Fr.*, **73** (*1957*), 4, pp. 343–353, 1 fig., 1958. [16 refs.]

From observations on some hundreds of isolates of *G. candidum* from healthy and diseased persons, it is concluded that this fungus is present as a saprophyte in the digestive tract of 25–30% of human beings, and appears to be capable of becoming pathogenic only in exceptional circumstances.

574. Bauer (H.) & Sheldon (W. H.). **Leukopenia with granulocytopenia in experimental mucormycosis (Rhizopus oryzae infection).**—*J. exp. Med.*, **106**, 4, pp. 501–508, 7 fig., 1957. [*B.H.*, **33**, p. 128.]

575. Murray (J. F.), Lurie (H. I.), & Brandt (F. A.). **Histoplasmosis in Africa.** —*J. trop. Med.* (*Hyg.*), **61**, 5, pp. 124–130, 1958.

A survey of the literature indicates that all forms of histoplasmosis (*Histoplasma capsulatum*) reported from other parts of the world, viz., the progressive disseminated, chronic cavitary pulmonary, acute benign pulmonary, inapparent or asymptomatic, and localized, also occur in Africa [**2**, Nos. 2455–6, and see below] but attention is drawn to certain unusual features of both the illness and the fungus in Africa.

576. Drouhet (E.). **Action de l'amphotéricine B dans l'histoplasmose africaine à grandes formes.** [Action of amphotericin B in the large-formed African histoplasmosis.]—*Bull. Soc. Path. exot.*, **51**, 1, pp. 76–82, 1958.

Amphotericin B at 850 μg./mg. was strongly inhibitory in *in vitro* tests on 2 strains of *H.* [*duboisii*] isolated from African patients [see above and below]. Administered *per os* in daily doses of 2–8 mg. it also exerted a marked protective action on hamsters and mice inoculated peritoneally.

577. Camain (R.), Berte (M.), Klefstad-Sillonville (F.), Mafart (J.), & Vilasco (J. A.). **Sept nouveaux cas d'histoplasmose observés en A.O.F.** [Seven new cases of histoplasmosis observed in French W. Africa.]—*Bull. Soc. Path. exot.*, **51**, 1, pp. 83–107, 4 pl., 1958. [32 refs.]

In 6 of the cases herein fully reported (with a mycological study by E. Drouhet) infection is attributed to *H. duboisii* (all in natives) and in 1 (in a European) to *H. capsulatum*. The spore measurements in tissue preparations of the former were 6–14 and of the latter 4–7 μ [cf. **2**, No. 2445]. In 4 cases the disease assumed an osteo-articular form, in 2 purely cutaneous, and in 1 cutaneo-visceral. The patients' ages ranged from 6 to 40 yr. The period of development of the illness lasted from 3 months to 2 yr. in the Africans and 10–13 yr. in the European, the source of infection in whom could not be definitely established.

578. Scherr (G. H.). **Studies on the dimorphism of Histoplasma capsulatum. I. The roles of —SH groups and incubation temperature.**—*Exper. Cell Res.*, **12**, 1, pp. 92–107, 1957.

Using varying concentrations of cysteine in a synthetic medium and incubation temperatures of 25°, 30° and 37° C. it was found at the Dept of Bacteriology, University of Illinois School of Medicine, Chicago, that a preponderance of Y phase cells of *H. capsulatum* could be maintained in culture for 3 weeks at 25° C. with only 0·001 M cysteine provided that an inoculum of at least 2×10^6 cells/ml. was used. The growth of M phase inoculum at 37° was inhibited by the addition of 0·04% agar or 0·025% silicon gel whatever the concentration of cysteine, but allowed good Y phase growth. The implications of these findings and the apparent greater importance of the concentration of the —SH groups than temperature for the maintenance of the Y phase are discussed [cf. **2**, No. 1853].

579. Sequera (C. M.) & Montemayor (L.). **Reacción de fijación de complemento con histoplasmina.** [Complement fixation test with histoplasmin.]—*Rev. Sanid. Asist. soc.*, **22**, 5–6, pp. 479–486, 1957. [English summary.]

The antigen was prepared by filtration of 2-month-old cultures, in glucose peptone broth, of the yeast phase of *Histoplasma capsulatum*. No anticomplementary and antihaemolytic activities were shown by the antigen. Against the serum of an immunized rabbit the antigenic activity was 1/32. The serum from a patient with proved histoplasmosis gave a positive reaction while of that from 10 normal individuals only 1 was positive. Other samples of sera were also assayed and 1

positive for Chagas disease (American trypanosomiasis) also gave a positive reaction with histoplasmin.

580. Carlisle (H. N.) & Saslaw (S.). **A histoplasmin-latex agglutination test. I. Results with animal sera.**—*J. Lab. clin. Med.*, **51**, 5, pp. 793–801, 1958.

A new serological technique for the detection of antibodies against *Histoplasma capsulatum* is presented, involving the 'coating' of polystyrene latex particles with histoplasmin and their use in a simple tube agglutination test [see below].

This method and the histoplasmin-collodion agglutination test [**2**, No. 79] yielded comparable results in respect of specificity and sensitivity in sera from infected dogs and monkeys and immunized rabbits.

581. Saslaw (S.) & Carlisle (H. N.). **Histoplasmin-latex agglutination test. II. Results with human sera.**—*Proc. Soc. exp. Biol., N.Y.*, **97**, 3, pp. 700–703, 1 fig., 1958.

A tabulated survey is presented from the College of Medicine, Ohio State University, Columbus, of experiments on the application of the histoplasmin-latex agglutination test [see above] to 204 serum samples. The results indicated that, as in the more elaborate and time-consuming collodion agglutination test [**1**, No. 1412], a 4+reaction at a dilution of or exceeding 1:5 is compatible with active infection by *Histoplasma capsulatum*. In 4 instances 3+latex-agglutinations were obtained in sera showing 4+ in collodion tests. For the present, therefore, 3+ agglutinations with latex are referred to the 'suspicious' category, while 1–2+ reactions are still regarded as negative. A.R.R.C.L.

582. Palmer (C. E.) & Edwards (Phyllis Q.). **The dose of histoplasmin H-42 for skin testing.**—*Amer. Rev. Tuberc.*, **77**, 3, pp. 546–550, 2 graphs, 1958.

Evidence is presented in this tabulated survey of the results of comparative intracutaneous tests on more than 2,000 students with the 1:50 and 1:100 dilutions of histoplasmin H-42 [cf. **3**, No. 121] that the former is the more efficient in distinguishing infected from uninfected persons in a population.

583. Curry (F. J.) & Wier (J. A.). **Histoplasmosis. A review of one hundred consecutively hospitalized cases.**—*Amer. Rev. Tuberc.*, **77**, 5, pp. 749–763, 3 fig., 1958. [Spanish and French summaries.]

An analysis is presented, under the aspects of symptomatology, physical findings, skin tests, serological reactions, and roentgenographic patterns, of 100 cases of histoplasmosis (*Histoplasma capsulatum*) treated at the Fitzsimons Army Hospital, Denver, Colorado, during 1951–55. The patients' ages ranged from 10 to 63 yr. and 18 were females. The surgical procedures in the 66 resected cases are described.

584. Baum (G. L.) & Schwarz (J.). **Pulmonary histoplasmosis.**—*New Engl. J. Med.*, **258**, 14, pp. 677–684, 13 fig., 1 diag., 1958. [38 refs.]

The clinical data for 22 cases are tabulated and discussed to illustrate the various forms of pulmonary infection by *Histoplasma capsulatum*. Great importance is attached to the prevalence of this disease in the Mississippi Valley, where its incidence in white juveniles (up to the age of 18) is at least 8 times higher than that of tuberculosis.

585. Josefiak (E. J.) & Foushee (J. H. S.). **Experimental mucormycosis in the healthy Rat.**—*Science*, **127**, 3312, p. 1442, 1958.

At the Bowman Gray School of Medicine, Wake Forest College, N. Carolina, pneumoderms or 'granuloma pouches' (H. Selye, *Proc. Soc. exp. Biol. Med.*, **82**, p. 328, 1953) in healthy rats were used to study the course of infection initiated by injection

of spores of *Rhizopus oryzae* in saline. The fungus produced a non-specific inflammatory reaction becoming granulomatous after 6 days, with formation of gross nodules. There was no spread to the viscera, and in some 4–6-week-old animals the inflammation subsided and the nodules were walled off by fibrous tissue.

586. Aun (R. A.). **Blastomicose do cerebelo : forma tumoral.** [Tumoral blastomycosis of the cerebellum.]—*Arch. Hosp. S. Casa S. Paulo*, **3**, 1, pp. 31–38, 1957. [English summary.]

A tumoral lesion attributed to *Paracoccidioides brasiliensis* was found at necropsy in a man of 34. No lesions were found in the oropharynx and in the other organs. It suggested a spontaneous healing of the primary lesion or that the latter was too small to be recognized.

587. Fonseca (J. B.). **Blastomycose Sul-Americana. Estudo das lesões dentárias e paradentárias sob o ponto de vista clinico e histopathologico.** [South American blastomycosis. Study of dental and paradental lesions from the clinical and histopathological point of view.]—*Tese Fac. Farm. Odontol. Univ. São Pauló*, 182 pp., 20 fig., 1957. [143 refs. Mimeographed English summary loosely inserted. *T.D.B.*, **55**, p. 941.]

This thesis, which breaks new ground, is based on a study of 25 cases of *Paracoccidioides brasiliensis* infection, details of which are summarized in an appendix (pp. 77–171). In the course of a full consideration of the data (including the results of X-ray examination) reference is made to the frequency with which the disease begins with oral manifestations (in 18 of the 25 cases), chiefly gingival alterations and dental mobility. Besides the gums (in which clinically unsuspected lesions were noted in 24 cases) the more frequently affected regions were the lips (13 cases), hard palate (10), soft palate (6), floor of the mouth (8), and tongue (6), and it is suggested that the mouth is frequently the path of entry of the infection, possibly due to the habit of male agricultural workers (in whom the infection is frequent) to pick their teeth and gums with grass and twigs and to chew grass. The importance of removing dental foci of infection is emphasized.

588. Gil-Yépez (C.), Lima-Gomez (O.), Puigbó (J. J.), Fernández (P.), & Wuani (H.). **Corazón pulmonar crónico por Paracoccidioides brasiliensis.** [Chronic cor pulmonale by *Paracoccidioides brasiliensis*.]—*Rev. Policlín. Caracas*, **25**, pp. 117–125, 1957.

A case of South American blastomycosis with lesions of the oropharynx and of both lungs, hypertrophy of the right cardiac ventricle, hypertension in the pulmonary circulation, and lack of oxygen saturation in the arterial blood is described. The lesions of the lungs are considered as the cause of the cor pulmonale. The patient was treated with diuretics, cardiotonics, and sulphonamides.

589. Gonzalez (H. D.), Agulleiro-Moreira (J. M.), Tchoulamjan (A.), & Urtubey (C.). **Paracoccidiosis y carcinoma del pulmón.** [Paracoccidiosis and carcinoma of the lung.]—*Pren. méd. argent.*, **44**, 7, pp. 468–472, 1957.

Report of a case of South American blastomycosis (*Paracoccidioides brasiliensis*) localized in the oropharynx and epidermoid carcinoma of a lung. The problems of diagnosis are discussed.

590. Oviedo-Bustos (J.). **Colopatías micósicas.** [Mycotic diseases of the colon.]—*Pren. méd. argent.*, **44**, 42, pp. 3111–3119, 1957.

A review of cases of abdominal actinomycosis and of the clinical and radiological disturbances produced by the tumoral lesions. A case of South American blastomycosis (*Paracoccidioides brasiliensis*) with enteritis is also commented on, as is the problem of intestinal moniliasis.

591. Lacaz (C. S.), Sampaio (S. A. P.), Bolognani (H.), & Wollner (N.). **Acão do sulfisoxazol na blastomycose sul-americana.** [The action of sulphisoxazole in South American blastomycosis.]—*Hospital (Rio de J.)*, **53**, 1, pp. 71–75, 1958. [English summary.]

The effect of the drug was investigated on 3 strains of *Paracoccidioides brasiliensis* grown on Sabouraud liquid medium at 28–30° C. for 30 days when 10 mg.% inhibited 2 strains and 20 mg.% the 3rd. A fungicidal effect was recorded on one strain at 10 mg.% and on another at 50 mg. while the 3rd was not killed by the latter concentration.

Ten cases of South American blastomycosis were treated with daily doses of 10–20 g. for 3–24 months. Satisfactory clinical results were recorded in 6 patients. Three patients died with generalized lesions. One died 7 days after the beginning of the treatment from disseminated blastomycosis. Most of the satisfactory results are only clinical pauses or partial cures and the authors think that no definitive cure has been obtained and that therapy with sulphonamides must be continuous in order to prevent the relapses. It is inferred that sulpha-resistance exists in some cases.

592. Navani (Miss H.) & Tiagi (G. K.). **Rhinosporidiosis in Western Uttar Pradesh.**—*J. Indian Med. Ass.*, **28**, 11, pp. 474–475, 1957.

A case of infection of the right nostril by *Rhinosporidium seeberi* in a 17-yr.-old male is reported from the S.N. Medical College, Agra [cf. **2**, No. 647; **3**, Nos. 285–286, *et passim*].

593. Arthur (G. W.) & Albrittain (J. W.). **Disseminated cutaneous sporotrichosis with systemic involvement.**—*Arch. Dermat., Chicago*, **77**, 2, pp. 187–190, 4 fig., 1958. [*B.H.*, **33**, p. 577.]

Disseminated cutaneous sporotrichosis (*Sporotrichum schenckii*) in a male 64-yr.-old Negro labourer, with involvement of the sclera, tunica vaginalis, and synovial membrane of the knee, responded to potassium iodide therapy at the U.S. Naval Hospital, Bethesda, Maryland.

594. Mikami (R.) & Stemmermann (G. N.). **Keratomycosis caused by Fusarium oxysporum.**—*Amer. J. clin. Path.*, **29**, 3, pp. 257–262, 2 fig., 1958. [Summary in Interlingua.]

A case of progressive corneal ulcer caused by *Fusarium oxysporum* (the 2nd confirmed published record) is reported from the Hilo Memorial Hospital, Hawaii. It developed in a 45-yr.-old Filipino as a sequel to a trauma which was treated with corticosteroids and antibiotics.

595. **Poisoning by toadstools.**—*Agric. Gaz. N.S.W.*, **68**, 12, pp. 647–648, 651 1 fig., 1957.

'Mushroom' poisoning is reported nearly every year in coastal N.S.W. where *Panaeolus ovatus* is believed to be the species usually involved. After eating this agaric hilarity is followed by stomach pains and vomiting.

596. Charters (A. D.). **Mushroom poisoning in Kenya.**—*Trans. R. soc. trop. Med. Hyg.*, **51**, 3, pp. 265–270, 6 graphs, 1957.

Descriptions are given of poisoning due to (1) *Lepiota morgani* (1 case) which contains irritant principles causing gastro-enteritis, and (2) *Stropharia*, acting specifically on the central nervous system. Coloured (pink) vision was a symptom of the latter in 1 of the 2 cases recorded here.

597. Skirgiełło (Mme A.) & Nespiak (A.). **Cortinarius (Dermocybe) orellanus Fr. non Quél.—przyczynac licznych zatruć grzybowych w Polsce w latach 1952–55.** [*Cortinarius* (*Dermocybe*) *orellanus* Fr. non Quél.—frequent cause of gastric poisoning in Poland in the years 1952–55.]—*Acta. Soc. Bot. Polon.*, **27**, 2, pp. 215–220, 1958. [French summary. 11 refs.]

An investigation into severe and fatal cases of gastric poisoning by *C. orellanus*, a species frequently mistaken for the edible mushroom.

598. Heim (R.), Brack (A.), Kobel (H.), Hofmann (A.), & Cailleux (R.). **Déterminisme de la formation des carpophores et des sclérotes dans la culture de Psilocybe mexicana Heim, Agaric hallucinogenic du Mexique, et mise en évidence de la psilocybine et de la psilocine.** [The determination of the formation of the carpophores and sclerotia in culture of *Psilocybe mexicana* Heim, a Mexican, hallucinogenic agaric, and the demonstration of the presence of psilocybin and psilocin.]—*Rev. Mycol., Paris*, **23**, 1, pp. 106–113, 2 fig., 1 graph, 1958.

From both sporophores and sclerotia of *P. mexicana*, the former cultured on natural media, the latter *in vitro* on artificial media, the authors obtained a crystalline material 'psilocybin', which had a strongly psychotropic effect on man, and also 'psilocin', in very small quantities.

599. Hofmann (A.), Heim (R.), Brack (A.), & Kobel (H.). **Psilocybin, ein psychotroper Wirkstoff aus dem mexikanischen Rauschpilz.** [Psilocybin, an active psychotropic material from the Mexican hallucinogenic fungus.]—*Rev. Mycol., Paris*, **23**, 1, pp. 114–118, 2 graphs, 1958. [French summary.]

Psilocybin from *Psilocybe mexicana* [see above] possesses some of the characters of indole and contains phosphorus. Traces were also found of another similar substance termed 'psilocin'.

600. Singer (R.). **Mycological investigations on teonanácatl, the Mexican hallucinogenic mushroom. Part I. The history of teonanácatl, field work and culture work.**

Singer (R.), & Smith (A. H.). **Part II. A taxonomic monograph of Psilocybe, section Caerulescentes.**—*Mycologia*, **50**, 2, pp. 239–261, 5 fig., 1 map; pp. 262–303, 50 fig., 1958.

In the 1st part, the author reviews earlier work on the Mexican hallucinogenic mushrooms (*Psilocybe* spp.) [**3**, No. 158] and gives a full account of the field and culture work on these fungi by himself and companions in Mexico in 1957. The fungi described are *P. cubensis*, *P. caerulescens*, *P. mexicana*, *P. candidipes*, *P. muliercula*, and *P. aztecorum*.

In the 2nd part, the authors describe with a key 18 species of the section Caerulescentes of the genus *Psilocybe*, to which most of the hallucinogenic mushrooms of Mexico are thought to belong.

601. Adelaar (T. F.). **Fungus-infected and fermented stock feed can be poisonous.**—*Fmg in S. Afr.*, **34**, 3, pp. 43–44, 1958.

This popular account deals with paspalum staggers (*Claviceps* [*paspali*: cf. **2**, No. 2245]), paralysis in cattle fed on maize cobs and stalks infected with *Diplodia zeae*, and suspected poisoning in dairy cattle fed on remains of kaffir corn or mealie meal porridge. Horses and pigs are stated to be more susceptible than cattle and sheep to this type of poisoning. Purgative treatment with castor oil or Epsom salts is recommended.

602. **Farmer's lung.**—*Brit. med. J.*, **2**, 5088, pp. 98–99, 1958. [14 refs.]

A general account of the incidence, symptoms, and methods used for diagnosis and treatment is followed by a brief critical survey of the literature.

603. Criep (L. H.), Teufel (R. A.), & Miller (C. S.). **Fungicidal agents in the treatment of allergy to molds.**—*J. Allergy*, **29**, 3, pp. 258–271, 1958.

From the Veterans Administration Hospital, Pittsburgh, Pennsylvania, and from the University of Pittsburgh comes a report of 3 substances tested to reduce the mould content in the homes of clinically mould-sensitive patients. The agents employed were hyagen (a 10% solution of alkyl (C9 to C15) tolyl methyl-trimethyl ammonium chloride), roccal (a 10% solution of high molecular alkyl dimethyl-benzyl ammonium chloride), and trioxymethylene (crystalline paraformaldehyde).

The ability to inhibit growth of fungi on exposed Petri dishes was taken as the criterion of efficiency of these substances and the method recommended by the authors for practical use is the subliming of trioxymethylene powder.

604. Gordon (M. A.). **Airborne mold flora of the Atlanta area, 1953–1954.**—*Ann. Allergy*, **15**, 4, pp. 400–408, 1957.

On 28 dates between Feb. 1953 and Apr. 1954 Czapek-Dox plates were exposed simultaneously at each of 3 sites. Plates exposed for 20 min. at 1 p.m. on a window ledge in an Atlanta suburb produced 399 colonies; on a terrace outside an Atlanta office building, 288, and in a room within this office block, 142. The 10 most abundant genera were *Streptomyces*, *Hormodendrum* (*Cladosporium*), *Alternaria*, *Pullularia*, *Epicoccum*, *Helminthosporium*, *Curvularia*, *Penicillium*, *Phoma*, and *Aspergillus*. The counts at each of the sites varied independently, but showed a seasonal variation in the total count and in the counts for each of the dominant organisms. This report was issued from the Communicable Disease Center, Atlanta, Georgia.

605. Kessler (A.). **Survey of airborne pollen and mold spores in Israel 1954–1955.** *Ann. Allergy*, **16**, 4, pp. 445–450, 6 fig., 1958.

Slides were exposed in the centre of Tel-Aviv, Jaffa. Spores of *Alternaria*, *Helminthosporium*, and *Macrosporium* (*Thyrospora*) were recognized and counted, while those of *Hormodendrum* (*Cladosporium*) and smuts were seen but not counted. *Alternaria* was the most abundant and showed 2 peaks of incidence, the greater April–June and the lesser Oct.–Nov.

606. Van Der Werff (P. J.). **Mould fungi and bronchial asthma. A mycological and clinical study.**—xvi+174 pp., 67 fig., 16 tables, Leiden, Holland, H. E. Stenfert Kroese N.V.; Springfield, Illinois, Charles C. Thomas, 1958. $7.50.

This book by the Head of the Amsterdam Clinic for Allergic Diseases deals with the occurrence of airborne fungus spores and their possible influence on bronchial asthma and related affections of the respiratory tract. It contains a chronological review of investigations into fungus allergy and a survey of general mycology with details of culture techniques and methods used in collecting fungus spores. Results are given of open plate exposures in outdoor and indoor air and of the fungus content of samples of fine dust collected from dwelling houses, factories, and workshops in the Netherlands. There is a 24-page bibliography.

607. Bugyi (B.). **Coniomicosi dei lavoratori del Riso.** [Coniomycosis of workers with rice.]—*Med. Lavoro*, **49**, 5, pp. 368–375, 5 fig., 1958. [English and German summaries.]

Many workers in a factory producing cellulose from rice straw at Csepel, Budapest, Hungary, complained of cough with sparse, blackish sputum, shortness of breath,

and dyspnoea, which were accompanied by the clinical symptoms of bronchitis. X-ray examination revealed bilar thickening and an accentuated pulmonary design in mild cases and nodules localized in the lower regions, sometimes confluent in pseudo-tumoral masses, in more severe ones.

The pathogenesis of the disease is complex. The high atmospheric concentration of dust containing large quantities of silicic acid is liable to damage the bronchial mucus, thereby facilitating the development of hyphomycetes, especially *Penicillium glaucum* and *Aspergillus niger*, both of which occurred in the sputum and on rice straw, while the latter was also present on cellulose sheets. The illness is considered to belong to the group of occupational pulmonary aspergilloses, represented, e.g., by thresher's disease and farmer's lung.

608. Kirk (R.) & Morgan (H. V.). **The systemic mycoses.**—*J. trop. Med.* (*Hyg.*), **61**, 9, pp. 215–228, 13 fig., 1958. [35 refs.]

The diseases comprised in this further joint contribution from the Universities of Malaya and Khartoum [cf. **2**, No. 2247] are actinomycosis, mycetoma, sporotrichosis, histoplasmosis, blastomycosis, cryptococcosis, coccidioidomycosis, South American blastomycosis, rhinosporidiosis, and moniliasis.

609. Schwarz (J.) & Baum (G. L.). **Surgical pathology of fungus diseases.**—*Arch. Surg., Chicago*, **75**, 1, pp. 44–56, 12 fig., 1 map, 1957.

A survey and discussion of 55 contributions to the literature on North American blastomycosis (*Blastomyces dermatitidis*), histoplasmosis (*Histoplasma capsulatum*), coccidioidomycosis (*Coccidioides immitis*), cryptococcosis (*Cryptococcus neoformans*), and a number of other diseases of low frequency.

610. Fuentes (C. A.). **Revision de las investigaciones sobre micologia medica y de la literatura en Cuba durante el decenio de 1945 a 1955.** [Review of investigations on medical mycology and of the literature in Cuba during the decade 1945–1955.]—*Mycopathologia*, **9**, 3, pp. 207–223, 4 fig., 1958. [33 refs.]

This review from the Escuela de Medicina, University of Havana, surveys the Cuban work on moniliasis, dermatophytoses, rhinosporidioses, chromoblastomycosis, histoplasmosis, and on the air spora of the region.

611. Mackinnon (J. E.). **Revision critica de la investigación y de la literatura micologia en el Uruguay en el periodo 1946–1956.** [Critical review of the mycological investigations and literature in Uruguay during the period 1946–1956.] —*Mycopathologia*, **9**, 3, pp. 224–240, 1958. [86 refs.]

The main part of this review from the Instituto di Higiene, University of Montevideo, deals with medical (pp. 225–235) and veterinary (pp. 235–236) mycology to which the author has made so many contributions. Phytopathological and industrial mycology are dealt with more briefly.

612. Cremer (G.). **Critical survey of mycological research and literature for the years 1946–1956 in Holland.**—*Mycopathologia*, **9**, 3, pp. 241–253, 4 fig., 1958. [32 refs.]

This review from the Dept of Dermatology, University of Amsterdam, deals with clinical and general aspects of medical mycology with sections on tinea capitis, tinea pedis, candidiasis, and deep mycoses (actinomycosis, coccidioidomycosis, and histoplasmosis).